

## DACCA STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 9th March 1901, on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. s.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	26,420	7,990 0 0	19,050 0	2,080 0 0	150 0 0	10,110 0 0	3,200	1,624	4,824
Or per mile of railway ...	307	92 0 0	222 0	24 0 0	2 0 0	118 0 0	...	...	...
For previous 9 weeks of half-year ...	237,830	75,490 0 0	4,44,120 0	43,280 0 0	1,530 0 0	1,20,300 0 0	25,230	18,862	44,092
Total for 10 weeks ...	264,250	83,390 0 0	4,63,170 0	45,340 0 0	1,680 0 0	1,30,410 0 0	28,430	20,486	48,916
COMPARISON.									
Total for corresponding week of previous year ...	26,808	8,102 0 0	19,215 0	2,123 0 0	39 0 0	10,269 0 0	3,208	1,100	4,308
Per mile of railway corresponding week of previous year ...	312	94 0 0	223 0	25 0 0	.....	119 0 0	...	...	...
Total to corresponding date of previous year ...	247,309	76,040 0 0	2,91,261 0	27,055 0 0	3,270 0 0	1,06,374 0 0	29,326	11,977	41,303

## COOCH BEHAR STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 9th March 1901, on 33.73 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. s.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	1,640	670 0 0	4,960 0	660 0 0	30 0 0	1,360 0 0	390	1,718	2,108
Or per mile of railway ...	49	20 0 0	147 0	20 0 0	...	*40 0 0	...	...	...
For previous 9 weeks of half-year ...	14,870	6,230 0 0	85,280 0	6,380 0 0	370 0 0	12,980 0 0	2,916	11,065	13,981
Total for 10 weeks ...	16,510	6,900 0 0	90,240 0	7,040 0 0	400 0 0	14,340 0 0	3,306	13,623	16,929
COMPARISON.									
Total for corresponding week of previous year ...	2,079	793 0 0	4,732 0	620 0 0	145 0 0	1,558 0 0	195	969	1,164
Per mile of railway corresponding week of previous year ...	63	24 0 0	142 0	19 0 0	.....	43 0 0	...	...	...
Total to corresponding date of previous year ...	17,547	7,322 0 0	102,044 0	8,366 0 0	1,751 0 0	17,430 0 0	1,805	9,594	11,309

\* Excluding coaching ferry.

† Including ballast train-miles, 1352.

## MYMENSINGH-JAGANNATHGANJ RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 9th March 1901, on 53.37 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. s.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	9,090	2,460 0 0	4,420 0	290 0 0	10 0 0	2,730 0 0	1,138	346	1,484
Or per mile of railway ...	170	46 0 0	83 0	5 0 0	.....	51 0 0	...	...	...
For previous 9 weeks of half-year ...	80,040	20,210 0 0	133,580 0	6,580 0 0	140 0 0	26,930 0 0	9,704	5,926	15,630
Total for 10 weeks ...	89,130	22,640 0 0	138,000 0	6,870 0 0	150 0 0	29,660 0 0	10,842	6,272	17,114
COMPARISON.									
Total for corresponding week of previous year ...	10,031	2,462 0 0	9,638 0	555 0 0	22 0 0	3,042 0 0	1,031	453	1,484
Per mile of railway corresponding week of previous year ...	188	46 0 0	181 0	11 0 0	.....	57 0 0	...	...	...
Total to corresponding date of previous year ...	84,301	21,291 0 0	207,863 0	12,772 0 0	152 0 0	33,525 0 0	10,042	6,332	16,374

## BRAHMAPUTRA-SULTANPUR RAILWAY.

*Approximate Return of Traffic and Mileage for the week ended 9th March 1901, on 59 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	6,300	1,790 0 0	12,740 0	1,120 0 0	50 0 0	2,960 0 0	765	915	1,680
Or per mile of railway ...	107	30 0 0	216 0	19 0 0	1 0 0	50 0 0	...	...	...
For previous 9 weeks of half-year ...	54,270	15,770 0 0	147,450 0	13,830 0 0	330 0 0	20,930 0 0	8,061	6,874	15,825
Total for 10 weeks ...	60,570	17,560 0 0	160,190 0	14,950 0 0	380 0 0	32,860 0 0	9,716	7,789	17,505
COMPARISON.									
Total for corresponding week of previous year ...	2,744	810 0 0	22,800 0	659 0 0	5 0 0	1,474 0 0	330	1,307	1,637
Per mile of railway corresponding week of previous year ...	112	33 0 0	931 0	27 0 0	...	60 0 0	...	...	...
Total to corresponding date of previous year ...	24,142	7,358 0 0	320,892 0	11,253 0 0	84 0 0	18,808 0 0	1,954	10,796	12,750

## BENGAL CENTRAL RAILWAY COMPANY, "LIMITED."

*Approximate Return of Traffic and Mileage for the Week ended 2nd March 1901, on 139 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	37,190	16,833 0 0	63,701 0	4,093 0 0	73 0 0	21,599 0 0	4,550	1,567	6,117
Or per mile of railway ...	286	129 0 0†	458 0	34 0 0	1 0 0	164 0 0	...	...	...
For previous 8 weeks of half-year ...	259,949	1,16,426 0 0	491,266 0	38,255 0 0	39,126 0 0	1,93,807 0 0	34,900	20,542	55,502
Total for 9 weeks ...	297,139	1,33,259 0 0	554,967 0	42,948 0 0	39,199 0 0	2,15,406 0 0	39,510	22,109	61,619
COMPARISON.									
Total for corresponding week of previous year ...	39,531	14,890 0 0	120,165 0	8,448 0 0	84 0 0	23,422 0 0	4,597	2,024	7,521
Per mile of railway corresponding week of previous year ...	308	115 0 0	864 0	61 0 0	1 0 0	177 0 0	...	...	...
Total to corresponding date of previous year ...	303,878	1,23,975 0 0	763,930 0	58,017 0 0	20,023 0 0	2,02,015 0 0	42,036	24,246	66,282

\* Audited up to week ending 12th January 1901.  
† Coaching traffic calculated on 139 miles only.

## BENGAL CENTRAL RAILWAY COMPANY, "LIMITED."

*Approximate Return of Traffic and Mileage for the week ended 9th March 1901, on 139 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	42,853	16,738 0 0	58,360 0	4,275 0 0	77 0 0	31,990 0 0	3,071	2,106	6,076
Or per mile of railway ...	329	129 0 0†	420 0	31 0 0	1 0 0	161 0 0	...	...	...
For previous 8 weeks of half-year ...	297,139	1,33,259 0 0	554,967 0	42,948 0 0	39,199 0 0	2,15,406 0 0	39,510	22,109	61,619
Total for 9 weeks ...	339,992	1,40,997 0 0	6,13,335 0	47,223 0 0	39,276 0 0	2,36,493 0 0	42,036	24,246	66,282
COMPARISON.									
Total for corresponding week of previous year ...	39,960	14,720 0 0	1,20,505 0	9,613 0 0	105 0 0	21,423 0 0	4,597	2,024	7,521
Per mile of railway corresponding week of previous year ...	308	113 0 0	857 0	69 0 0	1 0 0	155 0 0	...	...	...
Total to corresponding date of previous year ...	343,838	1,38,695 0 0	8,94,235 0	67,630 0 0	20,128 0 0	2,36,493 0 0	42,036	24,246	66,282

\* Audited up to week ending 12th January 1901.  
† Coaching traffic calculated on 139 miles only.

## BENGAL AND NORTH-WESTERN RAILWAY.

Approximate Return of Traffic for the week ending 9th March 1901, on (a) 1,237 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including steam-boat.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs.	Mds.	Rs.	Rs.	Rs.			
Total traffic for the week on (a)	174,250	(b) 71,210	653,290	(c) 98,440	16,260	1,85,900	32,080	(d) 31,844	63,924
1,237 miles open ...	149'87	57'57	528'12	79'58	13'14	150'29	.....	.....	.....
Or per mile of railway ...	1,381,049	5,86,657	6,012,221	8,50,569	1,42,463	15,79,688	270,265	253,009	523,274
For previous 8½ weeks of half-year ...	1,555,209	6,67,867	6,665,511	9,49,008	1,53,723	17,65,598	302,345	285,453	587,798
Total for 9½ weeks ...									
COMPARISON.									
Total for corresponding week of previous year on 1,157 miles open ...	140,843	61,459	742,093	96,791	16,787	1,75,037	27,342	(e) 35,283	62,625
Per mile of corresponding week of previous year ...	121'73	53'12	641'39	83'66	14'51	151'29	.....	.....	.....
Total to corresponding date of previous year ...	1,303,645	5,46,927	6,878,786	9,39,603	1,66,482	18,52,112	269,531	2,15,486	585,017

(a) 23.75 miles Kursela to Katihar Hajipur-Katihar Extension opened on 7th March 1901. The average mileage of the week is shown in this return.  
 (b) Increase is due to increased mileage and improved traffic generally.  
 (c) Decrease in weight with increased amount is due to longer l.e.d.  
 (d) Includes 3,374 miles of ballast trains run on open line.  
 (e) " 5,080 " " " "

## SĖGOWLIE-RAKSALU BRANCH RAILWAY.

(WORKED BY THE B. &amp; N.-W. RAILWAY.)

Approximate Return of Traffic for week ending 9th March 1901, on 18 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Passengers carried.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
	No.	Rs.	Mds.	Rs.	Rs.	Rs.			
Total traffic for the period on 18 miles open ...	1,353	242	14,202	366	6	553	383	121	504
Or per mile of railway ...	75'17	13'44	783'00	16'95	0'33	30'72	.....	.....	.....
For previous 8½ weeks of half-year ...	14,834	2,861	107,402	3,339	558	6,558	2,928	996	3,924
Total for 9½ weeks ...	16,187	3,103	121,604	3,644	564	7,111	3,311	1,117	4,428
COMPARISON.									
Total for corresponding week of previous year on 18 miles open ...	1,491	295	10,639	643	6	944	175	113	288
Per mile of corresponding week of previous year ...	82'83	16'57	594'39	35'71	0'35	52'43	.....	.....	.....
Total to corresponding date of previous year ...	13,854	2,526	87,680	2,971	76	5,573	1,685	935	2,620

## ASSAM-BENGAL RAILWAY.

Approximate Return of Traffic for the week ended 23rd February 1901, on 397 miles open for all descriptions of traffic, and an additional 151 miles for goods and parcels traffic only.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	68,231	55,346 0 0	203,377 0	13,636 0 0	2,435 0 0	71,429 0 0	7,150	6,973	14,123
Or per mile of railway ...	171'87	139'41	351'86	23'59	4'22	167'22	18'01	12'06	30'07
For previous 7 weeks of half-year ...	269,961	1,78,945 0 0	11,86,009 0	90,320 0 0	8,863 0 0	2,78,128 0 0	*31,213	*47,343	78,556
Total for 8 weeks ...	338,192	2,34,291 0 0	13,89,386 0	1,03,956 0 0	11,301 0 0	3,49,548 0 0	38,363	54,316	92,679
COMPARISON.									
Total for corresponding week of previous year ...	33,545	21,519 0 0	2,03,555 0	14,035 0 0	2,603 0 0	38,177 0 0	4,380	6,749	11,129
Per mile of railway corresponding week of previous year ...	84'71	54'34	466'72	32'23	5'07	92'54	11'06	15'55	26'61
Total to corresponding date of previous year ...	246,169	1,57,571 0 0	14,80,470 0	1,02,459 0 0	8,510 0 0	2,68,840 0 0	*32,906	*51,405	84,311

\* Traffic train miles of mixed trains, Chittagong Section, revised.

## FINANCIAL YEAR.

*Approximate Statement of Gross Receipts of the Assam-Bengal Railway.*

RECEIPTS FOR WEEK ENDING 23RD FEBRUARY 1901.			RECEIPTS FOR WEEK ENDING 24TH FEBRUARY 1900.			TOTAL RECEIPTS FROM 1ST APRIL 1900 TO 23RD FEBRUARY 1901.			TOTAL RECEIPTS FROM 1ST APRIL 1899 TO 24TH FEBRUARY 1900.			Total increase in 1901.	Total decrease in 1901.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
	Rs.	Rs.		Rs.	Rs.		Rs.			Rs.		Rs.	Rs.
578	71,420	107'22	436'14	38,177	92'54	578	16,05,351	.....	436'14	14,41,730	.....	1,63,631	.....

## DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

	Rs.	A.	P.
Approximate earnings for the week ending 9th March 1901	...	...	13,866 0 0
Audited earnings for the corresponding period of 1900	...	...	17,919 0 0
Decrease	...	...	4,053 0 0
Receipts per mile for the week ending 9th March 1901	...	...	271 14 1
Ditto for the corresponding period of 1900	...	...	351 5 8
Decrease	...	...	79 7 7
Receipts from 1st January to 9th March 1901	...	...	1,02,257 0 0
Ditto for the corresponding period of 1900	...	...	1,29,268 0 0
Decrease	...	...	27,009 0 0



REGISTERED No. 29.]

No. 13 of 1901.



SUPPLEMENT TO  
**The Calcutta Gazette.**

WEDNESDAY, MARCH 27, 1901.

OFFICIAL PAPERS.

[Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of five rupees per annum if delivered in Calcutta, or seven rupees and eight annas if sent by post.]

CONTENTS.

	Page.		Page.
REPORT of the Commission appointed to enquire into the working of the Calcutta Port Trust ... ..	598	RESULTS of the Meteorological Observations taken at the Alipore Observatory from 17th to 23rd March 1901 ... ..	641
Weather and Crop Report for the week ending 25th March 1901 ... ..	620	Circular and Eastern Canals for the week ending Saturday, the 23rd March 1901 ... ..	642
Tables showing the monthly and annual rainfall for 1900 ... ..	624	Weekly return of Traffic Receipts on Indian Railways ... ..	643
Supplementary table of rainfall recorded at stations in Bengal for 1900 ... ..	634		

## Report of the Commission appointed to enquire into the working of the Calcutta Port Trust.

*No. 37 Marine.*—The Report of the Commission appointed to enquire into the working of the Calcutta Port Trust is hereby published for general information. A Resolution of the Government on the Report will be published shortly, and, in the meantime, the Lieutenant-Governor offers to the gentlemen of the Commission his thanks for their services on a long and onerous duty.

MARINE DEPT.,  
The 23rd March 1901.

R. B. BUCKLEY,  
Secretary to the Govt. of Bengal.

# REPORT OF THE COMMITTEE APPOINTED TO ENQUIRE INTO THE WORKING OF THE CALCUTTA PORT TRUST.

## INTRODUCTORY.

THE Committee was appointed by Bengal Government Resolution No. 2074 Marine, dated the 30th October 1900, in consequence of representations made to the Government of Bengal by the Bengal Chamber of Commerce and various public bodies affiliated to it, and by the Calcutta Trades Association, from which it appeared that there existed among the mercantile community of Calcutta an absence of confidence in the administration of the Calcutta Port Trust.

The management of the Trust having been publicly challenged, it was considered best, in the interests of all parties, that an enquiry should be held. The constitution of the Committee was settled in consultation with the Chamber of Commerce as representing the commercial interests of Calcutta. It included the following gentlemen:—

The HON'BLE MR. E. N. BAKER, I.C.S., C.S.I., Secretary to the Government of Bengal, Financial and Municipal Departments	...	...	...	President.
The HON'BLE SIR ALLAN ARTHUR, Kt.	...	...	...	Members.
MR. G. H. SUTHERLAND, President of the Bengal Chamber of Commerce	...	...	...	
SIR PATRICK PLAYFAIR, Kt., C.I.E.	...	...	...	
MR. F. G. DUMAYNE, Secretary to the Bombay Port Trust	...	...	...	
MR. A. MUIRHEAD, General Traffic Manager, Great Indian Peninsular Railway	...	...	...	
MR. J. LIGHTFOOT, Manager, Eastern Bengal State Railway	...	...	...	Secretary.
MR. E. R. GARDINER	...	...	...	

2. The issues referred to the Committee were the following:—

- (1) How far can the present management of the Trust be improved—
  - (a) with regard to efficiency;
  - (b) with regard to economy.
- (2) Should the profits of one part of the Trust property be used to meet deficits on another, or should they be kept entirely separate.

- (3) Should the offices of Vice-Chairman and Chief Engineer to the Commissioners be separated on the expiration of the term of office of the present incumbent, and, if so, what other changes in the present organisation are desirable.

3. In accordance with the directions given in the Government Resolution we beg to present the following report.

PROCEEDINGS.

4. We have held in all 12 meetings. The first of these was held on the 16th November 1900, for the purpose of settling the procedure to be followed in our enquiry. Six Meetings and Evidence. meetings were held for the public examination of witnesses, and four meetings on the 6th, 7th, 8th and 9th of February 1901 were devoted to discussing the evidence presented to us, and formulating the conclusions based on that evidence and on our enquiries. A final meeting for the adoption of our report was held on the 11th of March 1901.

At the first meeting a list of questions was framed to elicit evidence on the various issues before us. These are set forth in Appendix A of this Report. They were circulated to the Chamber of Commerce and all other Commercial Associations interested in the enquiry, and their co-operation was requested in obtaining evidence. Notices were inserted in the public press, inviting all persons interested in the working of the Port to tender evidence.

In response to these requests, the following gentlemen submitted written statements of their opinions:—

- |                                  |   |
|----------------------------------|---|
| (1) Mr. H. M. Ross...            | ... Calcutta Baled Jute Association.            |
| (2) „ J. Nicoll ...              | ... Indian Jute Manufacturers Association.      |
| (3) „ H. H. Macleod ...          | ... Do. Mining Association.                     |
| (4) „ H. W. Cassels ...          | ... Secretary, Liners' Conference.              |
| (5) „ W. H. McKewan ...          | ... Calcutta Wheat and Seeds Trade Association. |
| (6) Babu Nalin Bihari Sircar ... | ... Calcutta Import Trade Association.          |
| (7) „ Radha Raman Kerr ...       | ... Bengal National Chamber of Commerce.        |
| (8) „ Nalin Bihari Sircar ...    | ... Messrs. Kerr, Tarruck and Company.          |

With the exception of Babu Radha Raman Kerr, whose evidence was received towards the close of the enquiry, these gentlemen subsequently appeared before us for oral examination.

In addition, communications on specific points dealt with in the enquiry were received from Mr. A. A. Apear, Messrs. Macdougall, Clark and Company, Sir James Mackay, Messrs. Bird and Company, Messrs. Macdowell and Company, the Agent, East Indian Railway, the Agent, Bengal-Nagpur Railway, the Manager, Eastern Bengal State Railway, and the Indian Tea Traders Association.

To supplement the evidence thus obtained—

- |                              |   |
|------------------------------|---|
| Mr. M. C. Turner             | ... Messrs. Mackinnon, Mackenzie and Company, |
| „ E. Cable                   | ... „ Bird and Company,                       |
| The Hon'ble Mr. R. P. Ashton | ... „ Kilburn and Company,                    |

were subsequently invited to appear, and were examined on matters that arose during the enquiry.

Mr. J. H. Apjohn, Vice-Chairman and Chief Engineer of the Port Trust, has been examined from time to time throughout our enquiries, and has greatly assisted us in the compilation of statements and figures that it has been necessary to obtain.

The whole of the evidence received will be found in Appendix B to this report.

5. At our first meeting we appointed a Sub-Committee to investigate in detail the working of each department of the Trust. Appointment of Sub-Committee. The Sub-Committee consisted of the three expert members of the Committee, viz., Mr. F. G. Dumayne, Secretary to the Bombay Port Trust; Mr. A. Muirhead, General Traffic Manager, Great Indian Peninsular Railway; and Mr. J. Lightfoot, Manager, Eastern Bengal State Railway. This Sub-Committee has examined fully the methods of working, the duties of employes, the financial results, the system of accounts, and generally the state of efficiency in each branch of the administration of the Trust. They brought to their enquiry an intimate knowledge of methods and results obtaining elsewhere in similar undertakings, and have presented a report which has been



of the greatest assistance in arriving at our final conclusions. This forms Appendix D of our present report. To enable the Sub-Committee to frame proposals for the better management of the workshops of the Trust, Mr. C. A. Walsh, Inspector of Factories, was invited to accompany them over the shops and give his opinion on their working.

6. In addition to inspecting all parts of the Trust property, we have also visited Luff Point, the site at which the Bengal-Nagpur Railway has proposed to construct coal-ing Docks. On this occasion we were accompanied by Mr. T. R. Wynne, the originator of the scheme, Captain Petley, Deputy Conservator of the Port, and several gentlemen interested in the proposal.

The Luff Point scheme.

#### PRESENT ARRANGEMENTS.

7. The Port Trust of Calcutta was first established in 1870. It is administered by a body of Commissioners consisting of a Chairman appointed by Government, a Vice-Chairman, and thirteen Commissioners. Of these last, eight are elected, and five appointed by Government. The eight elected Commissioners are returned, five by the Bengal Chamber of Commerce, one by the Trades Association, one by the Bengal National Chamber of Commerce, and one by the Corporation of Calcutta.

Constitution of the Trust.

8. The powers and duties of the Commissioners are prescribed by the Calcutta Port Act, III (B.C.) of 1890. Various sections of this Act invest the Commissioners with power to do everything that may be necessary for the improvement of the Port and the advancement of its trade. They have also been appointed, under section 7 of the Indian Ports Act, X of 1889, to be Conservators of the Port of Calcutta, and, as such, have charge of the navigable channels of the river leading to, as well as within the limits of, the Port proper. Their duties may be conveniently divided into two groups, (1) those which concern the safety of vessels visiting the Port, and (2) those which are undertaken to provide facilities for trade.

Powers and duties of the Trustees.

The duties falling into the former group are discharged by the Port Approaches Department and the Harbour Master's Department. Both of these are controlled by the Deputy Conservator, and are concerned,—the first with the survey, buoying, and lighting of the Hooghly from the sea to Port limits; the second with the control and movement of vessels while in the Port itself.

9. The facilities provided for trade have been very largely increased during the existence of the Trust.

When the Commissioners entered upon their duties in 1870, they took over from Government four Jetties and some minor works of improvement of the river bank which formed the foundation of the present Inland Vessels' Wharves. They also leased from Government the Strand Bank lands. With these works they took over a capital debt of Rs. 10,00,000, which was subsequently increased by Rs. 17,65,000, the value of the Port block made over to them by Government. During the thirty years of their administration of the Trust, they have continuously developed this property until at the present day the works which are vested in them for the benefit of the trade of the Port include the following:—

Development of the Trust property.

- A.—(i) *The Jetties*, consisting of six berths for sea-going vessels, having a frontage of 2,982 feet, with sheds and warehouses for the accommodation of the import trade. From 1884-85 till 1897-98 there were eight Jetties; but in the latter year, they were reduced to six, the total quay frontage remaining the same.
- (ii) *The Petroleum Wharf* at Budge-Budge, with sheds and tanks for dealing with the import trade in oil, both in cases and in bulk.
- (iii) *The Tea Warehouse* situated in the Jetty enclosure, where tea for export is stored prior to shipment, and where it can be sampled and bulked as may be required by the seller.



B.—*Inland Vessels' Wharves.*—These now comprise property on both banks of the river. On the Calcutta side the Commissioners control the frontage from Tolly's Nullah to Cossipore, with the exception of the Eastern Bengal State Railway wharf at Chitpur. On the Howrah bank they own the frontage from Shalimar to Messrs. Burn and Company's wharf at Howrah, except a portion recently acquired by the Bengal-Nagpur Railway. North of Howrah, they own two isolated ghâts, Telkul Ghât and Sulkea Banda Ghât.

C.—*The Strand Bank lands.*—These are leased to the Trust at a quit-rent of Rs. 37,292 per annum. They are let to private tenants, and the income derived is used for the improvement of the property held by the Trust.

D.—*The Block used in the Harbour Master's Department.* consisting of moorings and buoys, dredgers, anchor-boats, fire-engines, anchor vessels, steam-launches, &c.

E.—*The Port Trust Railway.*—This consists of lines between Cossipore and the Kidderpore Docks on the left bank of the river, and between Howrah and Shalimar on the right bank. The aggregate length is 8.526 miles, and, including all sidings, the length of track is approximately 69 miles.

F.—*The Block of the Port Approaches provided for the survey, buoys and lighting of the Hooghly.*—This consists chiefly of the vessels employed on those works. This Department was made over to the Trust in 1881-82, the value of vessels transferred being Rs. 6,21,163. To these the Commissioners have since added vessels costing Rs. 11,00,653.

G.—*The Kidderpore Docks.*—These were commenced in 1884-85, and the first vessel entered them in June 1892. The original scheme provided for entrances, a tidal basin, two wet Docks, a dry Dock, a boat canal, sheds, railway lines, pumping plant, etc. These works have been carried out with the exception of the second wet Dock with its accessories which are held in abeyance. Thirteen berths for general cargo are available, and recently four coaling berths have been constructed, and two more are under construction. A second graving Dock is also under construction. Three berths for salt ships have also been provided, with bonded warehouses for salt alongside. These, together with the coal berths, are on the site of the proposed Dock No. 2 of which they form a part.

10. The book value of these works, on the 31st March 1900, as shown in the Port Trust accounts, is Rs. 5,70,55,197. This figure, however, is misleading, and does not represent the true present value of the block. This point is further referred to in paragraph 19 below. In addition to the block, the Trust has accumulated reserve funds and sinking funds for repayment of debt aggregating Rs. 35,83,856.

The cost of this property and the investments have been met from the following sources:—

	Rs.
Loans from Government	3,65,60,666
Debenture loans	1,20,00,000
Total Loans	4,85,60,666
Contributions from Government	7,05,747
Ditto from Revenue	98,48,701
Sale of land	15,23,939
Total	6,06,39,053

For this Capital expenditure the work done by the Trust may be summarised thus: it has greatly extended the Jetties and the accommodation provided in connection with them; it has furnished special accommodation for the petroleum trade, the tea trade, the coal trade, and the salt trade, and is now providing similar facilities for the wheat and seed trade. It has supplied the shipping with a graving Dock, and is now building a second. It has lined the Calcutta bank of the river with wharves for the convenience of the inland trade, and has made similar, though less extensive, arrangements on the Howrah bank. It has constructed a railway on both banks of the river; and has provided a fully equipped Dock for which demands have been made at intervals from so far back as 1781.

11. In Appendix C we give figures compiled from the Customs returns and the Port Trust accounts, showing the total import and export trade of the Port in the principal staples during the last three years, together with the volume dealt with by the Port Trust.

## FINANCE.

12. The revenue and expenditure of the Trust for 1899-1900, and the budget estimate for 1900-1901, are shown in the following table:—

	1899-1900.		1900-1901 (ESTIMATED).	
	Revenue.	Expenditure.	Revenue.	Expenditure.
1	2	3	4	5
	Rs.	Rs.	Rs.	Rs.
Jetties ... ..	17,52,780	12,74,629	17,84,750	13,05,657
Inland Vessels Wharves ... ..	5,31,178	4,88,994	5,26,000	4,80,355
Strand Bank Lands ... ..	1,83,537	1,16,752	1,75,994	1,16,438
Harbour Master's Department ... ..	5,72,539	6,85,224	5,61,514	6,96,860
Railway ... ..	4,96,014	3,94,684	4,40,000	4,03,641
Port Approaches ... ..	4,96,990	5,80,149	4,86,015	5,78,954
Docks ... ..	16,50,063	30,92,174	18,27,500	31,36,901
Special Toll ... ..	9,68,013	20,889	10,00,000	21,263
Pensions and Compassionate Allowances ... ..	...	...	...	56,000
Total ... ..	66,51,114	66,53,495	68,01,773	67,96,069

\* The details of this item are distributed over the various Departments, the total being Rs. 47,294.

13. The revenue of the Trust is derived partly from obligatory charges on ships and on goods, and partly from voluntary payments for conveniences offered and for services rendered.

The obligatory charges on shipping consist (1) of the Port dues which are levied at present at the maximum rate of 4 annas a ton, (2) of fees for the use of moorings, and (3) of payments for the services of Harbour Masters in regulating the movements of vessels. Voluntary payments are made by the vessels for the use of Jetties, for the use of the floating crane, and of the hydraulic cranes at the Docks, for night-work, and for accommodation in the graving Dock. On goods, the only obligatory charges are—(1) the Special Toll of 4 annas a ton on all goods, except coal, landed or shipped in the Port; and (2) a wharfrage charge of 2 annas a ton on goods using the Inland Vessels Wharves. The voluntary charges on goods are for the use of the Commissioners appliances and for labour supplied by them in landing, shipping, and warehousing. The revenue derived from the Port Trust Railway is in part direct earnings from the transportation of goods, and in part a receipt from the main lines running into the Port on account of Terminal services rendered by the Trust.

The minor sources of revenue are rents received for land and buildings, and miscellaneous receipts such as earnings of tugs and interest on Reserve Funds.

14. The revenue of 1899-1900 subdivided under the above heads stands thus:—

Revenue.	Rs.	Rs.	Rs.
I.—Charges on Shipping—			
(a) Obligatory payments—			
Port dues .. ...	4,81,793		
Mooring hire... ..	2,94,537		
Harbour Master's fees ... ..	1,99,665		
License-fees from boats ... ..	26,315		
		10,02,310	
(b) Optional payments—			
Jetty hire ... ..	59,007		
Crane hire and night-work ... ..	2,94,244		
Use of Graving Dock ... ..	1,58,334		
		5,11,585	
Total from Shipping ... ..			15,13,895
II.—Charges on goods—			
(a) Obligatory payments—			
Special Toll .. ...	9,68,013		
Inland vessels wharfage .. ...	3,89,275		
		13,57,288	
(b) Optional payments—			
Landing charges ... ..	6,70,023		
Shipping „ ... ..	10,28,097		
Warehouse and removal charges ... ..	1,81,385		
		18,74,505	
(c) Petroleum depôt ... ..	4,37,582		
		4,37,582	
Total from goods ... ..			36,69,375
III.—Railway—			
Carriage of goods ... ..	4,96,014		
Terminal charges ... ..	1,41,225		
			6,37,239
IV.—Rents—			
Lands, buildings and wharves ... ..	3,86,751		
Tea warehouse ... ..	1,04,509		
			4,91,260
V.—Miscellaneous ... ..	3,39,345		
			3,39,345
Total Revenue ... ..			66,51,114

15. The main heads of expenditure in the year 1899-1900 were:—

Expenditure.	Rs.
Establishment ... ..	16,38,897
Working expenses ... ..	15,44,509
Repairs, renewals and depreciation ... ..	7,58,328
Rent and taxes ... ..	2,63,624
Interest and Sinking Fund ... ..	22,99,174
Miscellaneous ... ..	1,48,963
Total ... ..	66,53,495



16. In examining the financial position of the Trust, we have found considerable difficulty owing to the system under which the accounts are presented in the published reports.

The whole system of accounts has been thoroughly examined, and is discussed in detail in paragraph 125 of the Sub-Committee's report (Appendix D). Their conclusion is that the mass of information published in the Administration Report is much of it unnecessary, while the mode of stating it is confusing, misleading, and in some cases inaccurate. We have had frequent occasion to endorse this view during the progress of our enquiry.

17. For Budget purposes and for the presentation of the accounts, the working of the Trust is divided into the following main heads: (1) Jetties, (2) Inland Vessels Wharves, (3) Strand Bank Lands, (4) Harbour Master's Department, (5) New Works (Capital), (6) Railway, (7) Port Approaches, (8) Docks, (9) Special Toll.

We have found that in many cases the allocation of charges to these heads is inaccurate, and the result presented is not what it purports to be. One of the points on which stress has been laid by critics of the administration of the Trust is that the importer at the Jetties is being heavily overcharged to enable the Trust to meet deficits caused mainly by low charges on exports. This view is based on the figures given in the accounts under the head of Jetties. These figures, however, include those relating to many special services, such as the Petroleum Wharf, the Tea Warehouse, the piece-goods warehouses, and the 30-ton crane. After eliminating these, the revenue of the Jetties will be found to be only about  $5\frac{1}{2}$  per cent. on their Capital cost, not including the value of the land which was a free gift from Government.\*

\* See paragraph 12 of the Sub-Committee's Report (Appendix D).

Again, the Harbour Master's Department receives credit in the accounts for mooring hire of vessels lying in the Docks or at the Jetties,—items which, in our opinion, should clearly be credited to the Docks and Jetties respectively.

The cost of the Dock Police, amounting to Rs. 17,629, is debited to the Harbour Master's Department instead of to the Docks.

In Appendix 2, Part VIII of the published Accounts of the Trust, the income from the Special Toll is credited to Dock revenue, for the purpose of reducing the figure of revenue loss. There is no real reason why it should be shown against one Department which may work at a loss more than against another.

Such defects as these render the detailed divisions of the Revenue accounts of little value for the purposes for which they are published.

18. In this connection we have considered to what extent, if any, the different Departments of the Trust should not be treated as financially independent of each other. Different Departments of the Trust should not be treated as financially independent of each other. present divided for administrative purposes should be treated as financially independent of each other.

We are of opinion that while the accounts should set forth correctly the receipts and charges properly relating to each head of service, so as to show readily what outlay is incurred on and what return is obtained from each, yet it is neither desirable nor practicable that each Department should be financially independent or self-supporting. We observe that no such separation is attempted in Bombay. This view is borne out by the statements of the witnesses examined.

† Appendix A, page 68.

Mr. Ross, though in the main adhering to the view† that each Department should be self-supporting, makes exceptions. In his written evidence he says:—

"I look on the annual deficit of the Port approaches as being something of a necessity; since, unless vessels come up to Calcutta, no profit can be made out of the Port Trust."

Again, in his answer to question No. 207 (Appendix B, page 117), Mr. Ross states:—

"I was prepared to see any Department showing a deficit merged in one showing a profit, provided that the prosperity of the one depended on the other."

‡ Appendix A, page 74.

Mr. McKewan writes‡:—

"Theoretically the idea that each Department of the Trust should be self-supporting seems sound and business-like, but whereas in a merchant's business a Department that does



not pay can be closed up, the Port Trust cannot send the Docks about their business. Moreover, any attempt to raise charges to a level that would at once make the Docks pay would defeat its own object; no goods would go there. In my opinion, any discussion on this question except as an academic one is for the present useless."

The views of the Sub-Committee on this subject are stated as follows in paragraph 128 of their Report:—

"We are of one opinion so far that all the Departments of the Trust should be treated as a whole; and although for convenience of financial control separate accounts may be kept of the receipts and expenditure of each, the control establishment and general charges should be under one section, and not subdivided as they are at present, as it only causes trouble and serves no useful purpose."

With these views we agree. We consider that the operations of the Trust in all Departments should be treated as a whole. We entirely dissent from the view that each Department should be independent and self-supporting. The import and export trades are mutually dependent on one another, and cannot be treated apart. The Railway is an essential part of the machinery of the Port, and cannot be treated separately from the Docks and Jetties which it serves. The same remark applies to the Inland Vessels Wharves. The only exceptions are (1) the Port Approaches, which are outside and independent of the rest of the Trust; and (2) any special conveniences or appliances provided for particular trades, which are non-essential, and which could, if necessary, be either abandoned altogether or left to private enterprise, such as the tea warehouse, the piece-goods warehouse, the 30-ton crane, or the graving Dock. Even in the case of the Port Approaches, while we think that the receipts should, as nearly as possible, cover the charges, we regard an increase in the maximum rate of Port dues as a greater evil than the grant of a contribution from the general revenues of the Trust.

19. A further point in which we find the published accounts to be very misleading is the statement showing the value of the block as given in Appendix 4 to the Annual Administration Report. With the exception of one sub-head, including the block of the Port or Harbour Master's Department, no depreciation on the original expenditure is shown. Works and machinery, rolling-stock and vessels are all shown at their original Capital cost, and in some cases even repairs and renewals are added to that cost. The Block account, as it stands, is valueless for the primary use of such an account, not being a record of present values.

The Sub-Committee has pointed out the defects of the account in detail in their report, paragraph 125 (b).

20. Mr. Lightfoot has undertaken to prepare a revised set of forms of account. These are not yet ready, and we do not delay our report in order to include them. When they are submitted, they should receive the consideration of the Commissioners.

21. In examining the accounts, our attention has been drawn to the numerous Depreciation or Insurance funds that have from time to time been opened as the necessity for each became apparent. There are at present seven of these funds, the aggregate balances being under 12 lakhs. We see no sufficient reason for maintaining more than one such fund to meet casualties of all kinds, and we recommend that they all may be amalgamated.

22. We also draw special attention to the necessity of a thoroughly complete system of test audit over the daily receipts. The present system of test audit introduced by Mr. Apjohn has proved of great value, but there are further precautions in the shape of earlier check, checks by surprise visits, and checks through the Custom House documents, which are necessary to protect the Trust against possible losses of revenue. Such improvements as we recommend are dealt with in detail in paragraphs 24, 35 to 37, 45, 80, and 113 of the Sub-Committee's Report (Appendix D).

23. As regards check on expenditure, we consider that much may be effected by a more careful scrutiny of the necessity for each item when framing the annual budget estimate. We believe that allotments, especially under the head of Repairs, have often been made with too liberal a hand, and that the unspecified expenditure under the head of Contingencies should be reduced below that which is now regularly shown. If allotments, in the first instance, are carefully considered, and if any probable excess is laid before the Commissioners for orders, and if no reappropriations between budget heads are made without the sanction of the Trustees, we anticipate that some reduction of expenditure may be obtained.

24. The heaviest item on the expenditure side of the account is the Interest and Sinking Fund. The Capital debt on which these charges are incurred stood on the 31st March 1900, thus:—

	Rate.	Original amount.	CHARGES.	
			Sinking Fund.	Interest.
	Per cent.	Rs.	Rs.	Rs.
Government consolidated loan ...	4½	60,25,100	2,02,139	1,23,996
Book debt on account of value of Port block ...	4½	17,65,000	.....	79,425 Not repayable.
Debenture loan of 1881	4½	10,00,000	18,928	45,000
Ditto of 1883	4½	20,00,000	41,452	90,000
Ditto of 1886	5½	30,00,000	60,152	1,65,000
Ditto of 1895	4	1,50,000	3,208	6,000
Ditto of 1895	4	16,00,000	34,326	64,000
Ditto of 1897	4	15,00,000	32,400	60,000
Ditto of 1899	4½	12,50,000	27,000	56,250
Ditto of 1899	4	15,00,000	16,200	30,000 ½ year only.
Government Dock loan ...	4	2,87,70,566	.....	11,50,823 The Sinking Fund on the Dock loan has not yet come into operation.
Total ...		4,85,60,666	4,35,805	18,70,494
			23,06,299	
Add Bank Charge ...			4,300	
			23,10,599	
Deduct amount allotted to the Howrah Bridge			11,425	
Net charge ...			22,99,174	

A further Debenture Loan of Rs. 10,35,600 has been raised during the current year, so that the total original amount of the Capital Debt at present stands at Rs. 4,95,96,266.

Of this sum Rs. 34,21,801 has been repaid to Government, and a sum of Rs. 23,96,600 is invested in Sinking Funds to extinguish the debenture loans.

Deducting the sum already repaid and the value of the Port block which is permanent debt, the present balance of the Commissioners' debt is Rs. 4,44,09,465.

25. In the correspondence which led to the appointment of our Committee, the view was expressed in some quarters that the Commissioners have applied too small a proportion of their revenue to the repayment of debt. This view has not received any large measure of support from the witnesses examined, nor is it one that we are able to endorse. We are of opinion that, in the case of works constructed by a public body such as the Port Trust, the duration of a loan should be fixed with reference to the probable life of the works for which it is raised, allowance being made for a reasonable margin of safety. If the Trustees pay off their loans at a more rapid rate, they lay themselves open to the charge of imposing unnecessarily heavy burdens on the present generation of trade for the benefit of the next. In this view we consider that the Trustees acted wisely in applying their surplus revenue to reducing, and subsequently altogether abolishing, the Port dues from 1884-85 to 1892-93.



26. So far from thinking that the period at present adopted for liquidation of the various loans of the Trust is too long, we are of opinion that it is too short, and that it would be legitimate to considerably extend it. Our specific recommendations, and the relief which they will afford to the finances of the Trust, are set forth below. The payments for interest and loan charges are a heavy burden on the trade of the Port, and our examination of the details of this charge has led us to the conclusion that it can be reduced without in any way impairing the financial security of the Trust.

27. The particulars of the debt of the Trust will be found in Appendix C, Statement No. 2.

The total debt, as shown in the statement, excluding the book debt of Rs. 17,65,000 which is not repayable, is of three kinds, each of which is being liquidated under a different arrangement. These are as follows:—

	Rs.
Balance of Consolidated Government Loan ...	26,03,299
Government Dock Loan ...	2,87,70,566
Debentures ...	1,30,35,600
Total ...	4,44,09,465

28. The consolidated loan bears interest at Rs. 4½ per cent. Its original amount was Rs. 60,25,100, which was made up of a number of loans received from Government at various times down to 1879. In that year they were consolidated, and it was arranged that they should be liquidated by a fixed annual payment of Rs. 3,26,135, including both principal and interest, by the year 1910. By these payments, the principal has been gradually reduced to Rs. 26,03,299.

By section 27 of the Calcutta Port Act, the Commissioners are empowered to repay this balance at any time, and we recommend that they now raise a debenture loan of the requisite amount to enable them to do so. We estimate that they could obtain the money at Rs. 4 per cent., at an average of about Rs. 98.

Debenture loans being under the law repayable in thirty years, the effect of this transaction is to postpone the repayment of the balance of the consolidated loan to 1931. This we consider legitimate, seeing that not more than 8½ lakhs of the total loan (Rs. 60,25,100) dates back to 1870, more than half of it (Rs. 34,21,801) has already been repaid, and the works on which it has been spent have been maintained in excellent repair.

The effect of this conversion on the finances of the Trust will be an immediate saving of Rs. 1,69,140 per annum, as follows:—

	Rs.
Amount of debenture loan, assuming an average of 98 ...	26,56,428
Annual charge—	
Interest at 4 per cent. ...	1,06,257
Sinking Fund (at 1·91 per cent.) ...	50,738
Total ...	1,56,995
Present annual charge ...	3,26,135
Annual saving ...	1,69,140

29. Passing next to the Dock loan of Rs. 2,87,70,566, we find that, under an existing arrangement with Government, payments on account of a Sinking Fund have been postponed until 1910; such payments will be calculated so as to extinguish the loan in 1937, or within a period of forty-six years from the date of the completion of the works, which has been determined to be the 31st March 1891. We are of opinion that in the case of permanent works of such a nature as the Kidderpore Docks the period of repayment might reasonably be extended. We are informed that the Trustees of the Port of

Bombay have, with the consent of the Government of India, recently formed a general Sinking Fund for the extinction of the whole of their capital debt, both to Government and to the public, calculated so as to extinguish the existing debt in sixty years; also that the City Improvement Trust, Bombay, has authority to issue loans repayable in sixty years. We understand also that sixty years is the period fixed by the Treasury authorities in England for the liquidation of loans for works of a durable or permanent character raised by local authorities. We consider that, in virtue of these precedents, the Government of India might be asked to extend the period of repayment to 1951, or sixty years from the date of completion of the Docks. The effect of this concession is shown in Statement No. 4, in Appendix C. This statement shows the half-yearly payments now being made on account of interest and sinking fund on each debenture loan (including the loan proposed above for the purpose of repaying the balance of the Government consolidated loan), and also the date on which each will be repaid. If these amounts, as they cease to be required for payment of the charges on the respective debenture loans, are paid to Government on account of a Dock loan Sinking Fund, which will bear interest at the same rate as the loan, that is, at 4 per cent., then it will be seen from the last column of the statement, that they would have accumulated by the 31st March 1951 to over 564 lakhs of rupees, a sum not much less than double the amount of the Dock loan. In other words, if the Commissioners, as each debenture loan falls in, transfer to a Dock loan Sinking Fund a little more than one-half the sum saved in interest and sinking fund on that loan, a sufficient Sinking Fund will be accumulated to discharge the Dock loan in 1951. The remainder of the saving on the discharge of each debenture loan will be available for relieving the current charges of the Trust or meeting the cost of additional loans.

These two proposals will give an immediate relief of Rs. 1,69,140 per annum to the Trust. The relief will be increased as each debenture loan falls in; and the Dock loan will be extinguished by the 31st March 1951, or sixty years from the nominal date of the completion of the works.

30. As regards the existing debenture loans, these have been raised under the provisions of the Calcutta Port Act by which the term of repayment is fixed at not more than thirty years. The Commissioners do not count on getting more than  $2\frac{3}{4}$  per cent. interest on their Sinking Fund investments over the whole period, and therefore calculate the payments to each Sinking Fund at 2.166 per cent. on the loan. This forms a very heavy addition to the charges.

We find that, in the Act governing the Bombay Port Trust, there is no corresponding obligation to repay debentures within a fixed period. For the repayment of the loans of the Calcutta Corporation, the Sinking Fund is fixed under the Municipal Act at 1 per cent. on the unrepaid balance of the debt, which gives a period for repayment of 43, 46, or 48 years, according as the rate of interest on the Sinking Fund is taken at  $3\frac{1}{2}$ , 3, or  $2\frac{3}{4}$  per cent.

We recommend that section 24 (1) of the Calcutta Port Act be amended so as to bring it into uniformity with the Bombay Act. In Bombay debenture loans are not usually issued for a longer period than thirty years, but the Trustees are not required by law to, and do not in practice, provide a Sinking Fund sufficient to liquidate their loans within thirty years. They provide a Sinking Fund sufficient to liquidate all their loans within sixty years, and when any loan falls in, they liquidate it partly by means of the Sinking Fund and partly by issuing a fresh loan for the balance.

This proposal, if adopted, should of course apply only to future loans. Those now outstanding must continue to be liquidated in the manner prescribed at the time of issue.

31. In our examination of the accounts of the Trust, we have noticed that the balances with the Bank of Bengal, both on Capital and Revenue accounts, are at times very heavy. A statement showing the balances during the last three years is given in Appendix C. On one occasion in 1899-1900 the Commissioners placed ten lakhs on deposit with the Bank for six months at 2 per cent. per annum; but no interest is allowed by the Bank on the current balances, and we are informed that no attempt to obtain it has ever been

Interest should be obtained on the cash balances.



made. Nor has any part of them ever been invested in Government paper or other securities.

We are clearly of opinion that arrangements should be made by which the Trust should receive interest on its current balances. The Trustees are not bound to place these with the Bank of Bengal; and if the latter should be unwilling to allow interest, we do not doubt that arrangements could be made with some other bank of high standing.

32. We observe that the Calcutta Port Act gives the Commissioners no specific authority for the investment of surplus funds which are not required for immediate expenditure. If it should be thought that express legal authority is required, we recommend that the Act may be amended on lines similar to those of section 119 of the Calcutta Municipal Act of 1899, so as to give the Commissioners power to utilize their Capital and Revenue balances, when not required for immediate use, either for investment in authorized securities or for deposit at interest with selected banks. Such amendment of the Act should include provision for authorizing the Commissioners to obtain temporary overdrafts from the banks dealt with.

We notice that the Revenue balances, as shown in the statement referred to, appear to have been kept at a figure higher than was necessary during recent years. Some advantage might have been gained by a temporary use of these balances to postpone the dates on which it was necessary to raise loans on Capital account, with a consequent saving of interest charges.

33. Much has been written and said during the course of this enquiry on the subject of the charge now levied on the commerce of the Port under the name of special toll.

The special toll is a tax of 4 annas per ton, levied on all goods exported or imported with the one exception of coal. It is imposed under the provisions of section 108 of the Calcutta Port Act, III of 1890, with the express object of raising the revenue of the Commissioners so as to enable them to meet their expenditure. Prior to the year 1892-93, the income of the Trust from all sources had been sufficient to meet its liabilities without the necessity of having recourse to this toll. In the year 1892-93, in consequence of the interest charges on the Dock loan, it became evident that the revenue of the Port would be insufficient to cover the charges, and in January 1893 the special toll was imposed. From that date it has been continuously in force, the only change made in its incidence being that the charge on coal originally levied at 2 annas a ton was abolished in 1898-99. The receipts under this head for the past year 1899-1900 amounted to Rs. 9,68,013.

34. We have been told that the special toll is essentially a vexatious and unfair impost, and the Import Trade Association in particular have urged that it should be taken off imports. That the toll is unpopular is true. This is due partly to the fact that it is a form of direct taxation, and not a payment for specific services rendered. It is also due in part to the uncertainty connected with its imposition. The toll is renewable annually if required. One of the principal considerations in regulating Port charges is uniformity. Contracts may be made for long periods, and any uncertainty as to charges that may have to be met must act prejudicially on the commerce of the Port. A third reason assigned for the dislike with which it is regarded is its smallness in proportion to the value of most of the staples on which it falls. It is argued that its incidence is too small to be included in quotations, and that it, therefore, comes out of the pockets of the importer or exporter, and cannot be passed on to the buyer or consumer.

35. In other ports, however, such as those on the Mersey, the Clyde, and the Tyne, a very similar toll is levied under the name of River dues. The circumstances of the Port of Calcutta appear to us to make such a general River due specially suitable. The Commissioners have no control over certain lengths of the foreshore of the Port where the landing and shipping of cargo can be carried out by independent agencies. Such traffic enjoys the advantage of many of the Port facilities while contributing nothing to the revenues of the Trust. After considering the views of the various witnesses and the expression of opinion contained

in paragraphs 103-108 of our Sub-Committee's report, we are agreed that the principle on which the special toll is based, that the whole trade of the Port should contribute to the maintenance of the Port, is a perfectly sound one, and, further, that this principle should not only be applied when the finances of the Port would otherwise show a deficit, but should be of permanent application.

36. In other words, the principle hitherto followed in relation to the imposition of the special toll should be inverted. And regarded as backbone of the Port Trust Revenues. Hitherto the Trustees have regarded as their primary source of revenue the receipts obtained on account of the landing, shipping and warehousing facilities rendered to various branches of trade, and have looked on the special toll merely as a means of making good the deficit. We recommend, on the other hand, that River dues on goods should be permanently levied on the whole trade of the Port, and be treated as the backbone of the Port Trust revenue, while the charges made for landing and shipping and for special services rendered to special trades should be reduced to a minimum according as the financial position may permit.

If the charge is made permanent, the prices quoted by importers to buyers will speedily adjust themselves so as to pass on the charge to the ultimate consumer; and the smallness of its incidence, which is now made a cause of complaint, will be the more in its favour.

37. We have considered whether the dues should be levied by weight, as at present, or *ad valorem*. There would be no difficulty in arranging for the latter; but we are of opinion that such a change is not desirable, partly because the incidence of a tax *ad valorem* might press heavily on the more costly staples, such as tea and indigo (and we may add, on treasure), and partly because it might lead to undervaluation on which there is no check in the case of most exports.

38. As regards the rate at which it should be levied, we are unanimous that the present rate of 4 annas a ton is suitable and sufficient. In the case of coal we are all agreed that its entire exemption is not justified by the work done for the industry or by the finances of the Trust. The majority of us consider that the rate for coal should be one anna a ton. Messrs. Muirhead and Lightfoot, while agreeing in the other views expressed above, are of opinion that the rate for coal should be the same as that for other articles, subject to a maximum charge of two per cent. *ad valorem*. This is equivalent at present rates, to about 2 annas a ton.

39. As a possible substitute for the income now derived from the special toll the taxation of jute and jute fabrics has been advocated. The principal exponent of this plan was Mr. Ross, who, on behalf of the Baled Jute Association, strongly recommended a tax of 4 annas a bale on jute and gunnies exported, which he estimated to produce  $7\frac{1}{2}$  lakhs of rupees. The argument used in favour of such a tax is that Bengal possesses a monopoly of the world's supply of jute, and should take advantage of that monopoly to lighten the financial burden of its chief port by a tax such as that suggested, which would be too small to affect the business of producers or of merchants, and which would relieve the general trade of the port from other and less acceptable methods of taxation.

Mr. Ross maintained that the incidence of the tax proposed would be too light in any way to affect the power of jute to compete with other fibres, or to be felt by the Trade, though he eventually admitted that, however small the charge, it must in time have its effect in the competition of commerce. In spite of this opinion which we recognise as that of a gentleman having great personal knowledge of the trade we are entirely opposed to recommending any such tax as is suggested. In the first place, it appears to us clearly to be unsound policy to impose on a single industry, even though it be a flourishing one, the whole burden of making good the deficit in the general revenues of the Port. Secondly, though Bengal has a present monopoly of jute, it is well known that jute possesses no monopoly in the consuming market; the advantage it enjoys over rival fibres is due to its cheapness, and not to its

Export duty on jute.

See questions Nos. 152-161.

See questions Nos. 371-375.

Not recommended.



merits as a fibre, and any impost that enhances its price impairs its power to compete.

40. We now proceed to consider each of the Departments into which the Trust is now divided, and to set forth our conclusions and recommendations in regard to each of them.

#### JETTIES.

41. The Jetties, when first constructed, were T-headed structures, projecting from the bank and separate from each other. In course of time one Jetty was connected to another until they now form a line of riverside quays, continuous except at one place where the line is broken for a length of 221 feet owing to the obstruction presented by the remains of the large iron vessel *Govindpore* which sank in the cyclone of 1862. At this point a small jetty is provided for transshipments. Their total length, inclusive of the transshipment jetty, is 2,982 feet. Each Jetty is provided with one or more single-storey sheds for the receipt of cargo, the average shed space to each Jetty being 26,604 square feet. Goods are lifted from the ship's hold by hydraulic cranes and deposited on the quay-head, whence they are carried to the sheds (or in the case of iron and rough cargo, to the open spaces between the sheds) on trucks or trollies or by hand. Three days' free time is allowed to importers to clear their goods, after which they become liable to warehouse rent. At these riverside quays or jetties, the foreign import trade has always been concentrated. Formerly a proportion of the exports was loaded from the Jetties, the bulk being loaded overside from boats while the vessels were at the Jetties or at moorings in the stream. The quay space was formerly divided into berths for eight vessels, but in consequence of the increasing length of vessels resorting to the Port, the number of berths has been reduced to six.

42. Since 1897, no exports have been received for shipment at the Jetties; and it has been necessary for vessels, after discharging their import cargo, to proceed to the Docks (or to moorings in the stream) to load. We have considered the question whether this arrangement should continue, or whether imports, as well as exports, should be received at the Docks. This was the intention when the Docks were built; there is sufficient room for both at Kidderpore; it is in accordance with the practice in most ports; and its convenience and economy from the point of view of the vessel are manifest. We are, nevertheless, of opinion that for some years to come it will not be practicable in Calcutta. In this view we are supported by the Sub-Committee, whose views are stated in paragraphs 7 and 8 of their Report. The reason is that it does not suit importers to have their goods landed at Kidderpore. The offices and godowns of the import merchants are in Calcutta, in the neighbourhood of the Jetties; so are the bonded warehouses, the shops and factories, and the import markets generally. These cannot be transferred to Kidderpore without great expense, inconvenience, and dislocation of established custom. The alternative of conveying imports from the Docks to the Jetties by rail or cart is also impracticable, for several reasons. The expense to the Trust would be prohibitive; it is very doubtful whether the Port Trust Railway could cope with the traffic; and it is obviously extravagant to land goods several miles from the import market, when ships can bring them direct to the latter. If they were sent by cart, the expense would be quite as great, and it is improbable that a sufficient supply of cart transport would be available, to say nothing of the nuisance occasioned by an enormous cart traffic passing across the Maidan. Finally, the space available in the Jetty compound is altogether insufficient for the sorting and delivering of many train loads of cargo comprising a great variety of consignments. While therefore we recognize the advantage of dealing with imports and exports at the same spot, we are satisfied that no prospect exists of this being found practicable at present.

43. Vigorous complaints have been made of the want of space, overcrowding, and general mismanagement at the Jetties. These receive their fullest expression in the statement submitted by the Import Trade Association (Appendix A, page 75.)

Want of space at the Jetties.



We have tested these complaints by a number of personal inspections, as well as by enquiry, and we find that, so far as regards want of space in the Jetty sheds and compound, they are justified. In Calcutta, the shed space is only 26,604 square feet per berth. The consequence is that when a vessel arrives with a large general cargo, comprising possibly 20,000 packages, it becomes utterly impossible for the Jetty officers to sort the cargo, or stack it according to consignments, with the marks facing outwards, and with adequate room between the stacks. The congestion and confusion are intensified when the consignees begin to remove their goods. In searching for missing packages, they are driven to pull down and disarrange the stacks of cases, and destroy such order as there was before. We are of opinion that the defects, which undoubtedly exist, are primarily due to want of space.

44. Both shipowners and importers are, in consequence of this deficiency, placed at a serious disadvantage. The capital cost and the current expenses of the large steamers accustomed to come to this port have increased the value of despatch. But, owing to the want of storage space, the work of discharging cargoes at the Jetties is necessarily slow. Frequently work is stopped altogether until room becomes available by the delivery of goods to consignees, and instances of serious delay to steamers due to this cause occurred while our enquiry was in progress. The complaints of shipowners in regard to these matters are, in our opinion, well-grounded, and call for immediate relief.

Need of greater facilities for Steamers; And for goods. The complaints of consignees proceed from the same cause. It has been sought by the restriction of the number of free days to three, and the levy thereafter of a penal rate of warehouse rent to hasten the removal of the goods and make room for the remainder of the discharging vessel's cargo or for the cargo of the succeeding vessel. Any gain in space obtained by this means is, however, counteracted by the confusion which must inevitably arise when the work of discharging cargo into a confined space clashes with that of delivering the separate consignments. It is, moreover, obtained at the expense of the trade, as it means that the importers must always have a staff of sircars in readiness to clear their goods as soon as they are landed, in order to avoid the charge for rent; and as the several consignments in one steamer, or even the whole of the packages in one consignment, are unlikely to be landed in one day, but may be scattered over several days, and there may also be delay in finding them, the sircars must visit the sheds repeatedly before delivery of the whole lot is completed. The overcrowding also affords unscrupulous subordinates an opportunity of showing favour for their personal advantage, and complaints to this effect have been made to the Committee. The fact that the receipts from the rent charge amount to one-fourth of the receipts from the landing charge is significant as showing that three days is too short a time to allow for the clearance of goods. Taking seven days as the average time occupied in discharging a large import cargo, it would be reasonable to allow importers the same number of free days, so that they may be enabled to remove all their consignments at one time. It is impossible for the public or the officers of the Trust to carry on their work satisfactorily under present conditions, and it is essential to the improvement of the arrangements at the Jetties that the storage space should be increased. Our proposal that this should be done is not a new one. We find that it had already been considered by the Trustees and apparently postponed until it had been ascertained, firstly, whether the foreign trade would shift to the Docks or not, and, secondly, whether the removal of exports would give sufficient relief without further expenditure on improvements. Meanwhile the demands have increased, and it has been made clear to us that the execution of the various works of improvement at the Jetties now recommended can no longer be postponed without injury to the commerce of the Port.

45. As the trade of the port expands, some portion of the import trade may, in time to come, be forced by circumstances to shift to the Docks. We have, nevertheless, no hesitation in making our recommendations, as the Jetties are so conveniently situated in the heart of the city that there is no

Existing accommodation insufficient for the trade of the Port.

risk that works carried out there will become unremunerative, as they will always be in demand for the coasting, if not for the foreign, trade.

46. The shed space at present available varies from 24,802 to 28,664 square feet at each berth, and the cargo of a large liner, exclusive of rough articles which may be placed in the open, requires from two to three times that amount. We recommend that in place of the present single-storey sheds, sheds of two, or, if necessary, three storeys be constructed. These should be provided with platforms projecting towards the quay side, so that the cranes may deliver the goods from the ship's hold direct on to either the first floor or the ground floor. If three-storeyed sheds are constructed, they would have to be provided with suitable lifts or cranes. Deliveries could be effected either by shoots or by lifts. We are informed that these proposals present no engineering difficulty. This would remove the necessity of blocking the line by carts.

47. The railway lines within the Jetty premises should be recast, so that the up and down traffic may not be blocked, as is often the case at present. The yard should be equipped with hydraulic capstans, turn-tables, etc., on some suitable plan to facilitate the shifting of wagons and restrict the use of locomotives. Some less cumbrous means than locomotives and wagons—such as bullock carts, trolleys or overhead traversers—should be introduced for the simple operation of moving cargo the short distance across the Jetty yard.

48. If the delivery of cargo is facilitated, it is probable that the present import warehouses to which undelivered cargo is removed at the expiration of the free days, may be sufficient for this purpose. But if further accommodation should hereafter be found to be necessary, these warehouses, which are single-storeyed buildings, might be replaced by two-storeyed or three-storeyed structures, on the pattern of the piece goods warehouse. This recommendation has been put forward in paragraph 9 of the Sub-Committee's report, where it is also suggested that the receiving sheds for export traffic to the Docks, may be removed to the Strand Bank lands to the north, the space occupied by them being given over for import purposes.

49. The old pattern hydraulic cargo cranes, of which there are 17 still in use at the Jetties, are said to be unsuitable for the larger classes of vessels as they do not plumb the hatches. They should be replaced by more modern machinery as funds become available; but the matter is not one of pressing necessity, and should be deferred till increased shed accommodation has been provided.

50. We desire to endorse the recommendations made in paragraph 15 of the Sub-Committee's report, (1) that the practice of charging mooring hire, in addition to Jetty hire, while vessels are lying at the Jetties, be discontinued; (2) that the Jetty hire should be rearranged on a tonnage scale, which would yield a higher revenue; and (3) that the charge for use of cranes should be separate and not be included in the Jetty hire.

51. The requirements of the steam coasting trade remain to be considered. At present, with the occasional exception of a sugar-laden steamer from Mauritius which may get a berth at the Jetties, the coasting steamers, many of large size, are all loaded and unloaded at moorings in the stream. Having regard to the short voyages made by them, the necessity for despatch has special importance in their case, but the only facilities afforded them are two open sheds in front of the Bank of Dargal, and a single Temperley transporter. The defects of the present arrangements and suggestions for a remedy were clearly brought out by Mr. M. C. Turner (questions Nos. 1199—1202), who stated that his firm would probably be prepared to guarantee a certain revenue on the cost of a jetty set apart for coasting cargo. We believe that the provision of berths for coasters would be welcomed by the trade generally, especially if sheds are provided for the collection of cargo for shipment, a facility which is much needed. The difficulty is to find the space, as the accommodation along



the river bank on the Calcutta side is undoubtedly very crowded already.

Two new jetties recommended. Mr. Apjohn has prepared a sketch showing how the accommodation on the embankment now used for the coasting trade, for a length of 750 feet, may be improved and very largely increased by the construction of two projecting jetties which would provide quay-side berths for the coasting steamers, and slopes for cargo boats. Without committing ourselves to any plan, which is a matter for the Port Commissioners to settle with their Engineers, we are of opinion that, although these berths may not accommodate all the coasting steamers, the proposal should nevertheless be carried out, as it will be a substantial improvement on present arrangements. And it may be pointed out that the other improvements which we propose should be made at the Jetties proper, will, by increasing the volume of traffic, now under 500,000 tons, which may be passed over those Jetties, render them capable of accommodating more vessels and more goods traffic than at present, so that we may reasonably expect that many coasting steamers may be unloaded there as well as at the berths to be specially provided for them.

52. The Sub-Committee, in paragraphs 18 to 27 of their report, have dealt at length with the question of management at the Jetties as regards staff, shed accounts, labour, rates and audit. In their opinion the supervision is on a liberal scale, and there seemed to be room for economy in this respect; but, while agreeing with the Sub-Committee; in deference to the representations of witnesses we do not recommend that any reductions should be made. The effect of our recommendation is to increase the supervision, as we propose that the Jetty Superintendent should be relieved of his other duties, have his office at the Jetties, and give his exclusive attention to them.

53. The system with regard to shed accounts is declared by the Sub-Committee who have examined it in detail to be very good, but somewhat elaborate, involving considerable cost in clerical staff; but inasmuch as it has grown out of the demands of the shipowners and importers, we do no more than bring the cost to notice. The labour employed at the Jetties is supplied departmentally under what seems to us a very suitable arrangement. The cost is said to amount to about 5 annas per ton, but we have not been able to test this figure, as an exact account has not been kept of all the charges including labour, supervision and gear. We concur in the recommendation of the Sub-Committee that the present system should continue, subject to the alteration proposed in paragraph 20 of their report (Appendix D). There is an advantage in having a departmental system working alongside a contract one because of the experience thus gained in the control and cost of labour. The accounts should be kept in such detail as to show at any time whether departmental or contract labour may be more usefully employed in this or other Departments.

54. We support the recommendations of the Sub-Committee:—

- (a) that the rates levied at the Jetties should be revised and assimilated to the Bombay rates wherever the latter are found to be lower;
- (b) that fixed rates should, as far as possible, be substituted for measurement rates, as the former give less trouble in the collection of charges and allow of a better check being exercised by the audit office;
- (c) that hereafter, whenever it may be done without financial difficulty, the rates for the use of the 30-ton crane which yield a considerable surplus should be reduced; and
- (d) that arrangements be made between the Custom House and Port Trust for an extension of the hours within which goods may be removed.

#### TEA WAREHOUSE.

55. The Tea Warehouse is included for purposes of account with the Jetties. It stands in the Jetty compound. Accommodation is provided for the storage, sampling and sale of tea prior to shipment through the Docks. The building was completed in 1897 at a cost of Rs. 8,51,007. The financial results



of its working are not shown separately in the accounts as they should be: but they have been ascertained and are set forth in paragraph 28 of the Sub-Committee's report.

56. We deputed Mr. Dumayne, one of our members, to enquire into the working of the warehouse in company with representatives of the Tea Trade. His report, with which we generally agree, will be found in Appendix E, page 329.

57. Complaints have been made that the space available for storage is insufficient, and that there is much pilfering of teas opened out for sampling or repacking. The business done in the warehouse is steadily increasing. The Commissioners have already taken steps to increase the storage space. They are erecting overhead traversers, which will admit of higher piling of the chests and so increase the floor area available. These traversers will also facilitate the movement of consignments in and out of the building.

The bulking of tea by machinery is carried out in this warehouse. Additional space can be provided. Much space which would otherwise be available for storage is occupied by this process. If, after the traversers are in work, space is still found to be insufficient, it will be for the Commissioners' consideration whether this operation should not be performed in a separate building. Additional accommodation could also, if necessary, be obtained by a readjustment of space now occupied by the piece-goods warehouse.

Space is said to be occupied by teas that are not intended for sale in Calcutta. It is often uncertain at the time of arrival of a consignment whether it will be sold in Calcutta or shipped direct. In every case where this can be definitely ascertained, the consignments for direct shipment should be railed direct to the Docks, instead of passing through the warehouse which should not be regarded as a storehouse.

58. As regards the complaints of theft, the lower floor of the warehouse is so open to the public, and the number of persons employed to draw samples is so great, that it would be surprising if thefts did not occur. We recommend that, with the exception of one or two entrances, all the doorways on the ground floor be fitted with wire-netting, and that in consultation with the trade a system of registration of authorized samplers, to whom passes would be issued, should be adopted.

59. We have considered whether it would not be possible to transfer the whole of the business of the Tea Warehouse to the Docks. The Tea Traders' Association represents that this would be impracticable, as sampling and sale could not be conveniently dealt with at such a distance from merchants' offices. We consider that this objection should prevail, and that the warehouse should remain where it is.

60. There is some room for economy in working both by reduction of the supervising staff and alteration in the system of labour employed. The work to be done might be carried out by three supervisors in place of the five now employed. The nature of the operations is such that departmental labour is likely to be more economical than the present contract system.

#### THE PETROLEUM WHARF.

61. This wharf is situated at Budge-Budge. It was opened for traffic in 1886 as a storage dépôt only. Subsequently the Commissioners undertook the handling of the cargo, and since the introduction of the trade in bulk oil they have added special accommodation to meet the requirements of this trade.

The accounts of the wharf are amalgamated with those of the Jetties. In 1899-1900, the receipts amounted to Rs. 4,37,582; while the cost of working and repairs, exclusive of debt charges, was Rs. 1,44,981. The Capital cost is in round numbers 11½ lakhs of rupees, so that the return on Capital is slightly over 25 per cent. The profits may, however, be expected to diminish as the trade in bulk oil increases and the storage accommodation for case oil is made less use of in consequence. In the last five years, while the total import of oil has increased by 7 per cent. only, the quantity imported in bulk has grown by 145 per cent.

## INLAND VESSELS WHARVES.

62. On the left or Calcutta bank of the river, the Port Commissioners control the whole frontage from Tolly's Nullah to Cossipore, with the exception of a small length at Chitpur owned by the Eastern Bengal Railway. On the right or Howrah bank, they own the river frontage from Shalimar up to Messrs. Burn and Company's wharf, with the exception of a strip of about 2,000 feet recently acquired by the Bengal-Nagpur Railway at Shalimar. North of Messrs. Burn and Company's premises they own two isolated ghâts only.

When the Commissioners entered on their duties in 1870, some improvements on the river bank had already been made by Government, which were valued at Rs. 87,349. Since that date they have continuously improved the banks and have provided wharves, until at present the capital cost (excluding Railway expenditure) of the works under this head amounts to Rs. 72,00,000. This includes the cost of the coal depôt at Shalimar.

63. The shed or warehouse accommodation attached to these wharves is situated on some of the most valuable land owned by the Commissioners. This accommodation has been provided by the owners of steamships, and not by the Trust. No complaints have been made by any of the witnesses examined by us regarding the accommodation provided, or the management of the wharves. But it is evident that the shed space is insufficient and overcrowded. Goods are not stacked in lots or arranged for delivery in any way. It should be possible to classify the trades using the wharves so as to avoid the confusion that at present exists. In examining into complaints of delay on the Port Trust Railway made by tea shippers, it appeared to us that the delay was in reality due to confusion and mixing up of cargo delivered at the wharves, and not to deficiencies of the Railway.

It appears to us that it is as incumbent on the Trust to provide reasonable and sufficient shed accommodation for inland-vessels traffic as for the traffic of ocean-going steamers. The inland-vessels bear an important share in the development of the Port. To leave all the arrangements for sorting and delivering their cargoes in the hands of private agencies is a policy of doubtful expediency.

64. The revenue of the Inland Vessels Wharves is derived from a uniform toll of two annas per ton on all goods which pass over the Commissioners' frontage, except coal at Shalimar. (See paragraphs 70 and 92.)

The revenue for last year amounted to Rs. 5,31,178, made up of the following items:—

	Rs.
Receipts from wharves and landing stages	4,20,644
Rent of land, Sibpur	1,06,965
Miscellaneous receipts	3,569
Total	5,31,178

The expenditure was—

Salaries, working expenses, repairs, improvements, &c.	2,35,648
Interest and Sinking Fund charges	2,53,346
Total	4,88,994

65. In connection with this branch of the Port Commissioners' administration, we desire to draw attention to the necessity of the most careful check on the collections. The staff employed for this purpose is in our opinion sufficient, but a better distribution of it may be possible, as is suggested in paragraphs 35 and 36 of the Sub-Committee's report.

66. In paragraphs 34 and 38 of the Sub-Committee's report, it is suggested that it may possibly be advisable to increase the rate either over all goods, or over certain selected ones. If, however, our proposal to impose the Special Toll as a permanent charge is adopted, it may not be necessary to



make any increase. Nor do we recommend the fencing of the wharves, which would not only be expensive, but would be obstructive to trade.

67. We desire to draw attention to the importance of retaining full control in the hands of the Commissioners of the foreshore rights over the whole of their frontages. In one case at Bracebridge Hall a lease has been granted, permitting the shipment of coal for the purposes of the fleet of the British India Steam Navigation Company, under independent arrangements. Such alienation of control we consider inadvisable. In this particular case the wharf is leased for bunkering purposes only, and to this it should be strictly confined.

#### STRAND BANK LANDS.

68. These lands were leased by Government to the Trust at the time of its constitution. They are held for a present quit-rent of Rs. 37,292. The whole of the land on the Calcutta side and the greater part of that on the Howrah bank, is now leased out. The net revenue obtained from this source during 1899-1900 was Rs. 66,786, after deduction of Rs. 18,280 on account of Interest and Sinking Fund charges.

69. It has been put before us in evidence that for a long period no improvement in the rent collections has been effected. (Appendix A, page 82).

The statement that the rent collections have remained stationary for the last fifteen years is substantially correct. In 1884-85 the receipts amounted to Rs. 1,69,720, in 1890-91 they had risen slightly to Rs. 1,73,387, in 1895-96 they had fallen to Rs. 1,64,532, and after a slight rise fell again last year to Rs. 1,64,727. The general enhancement of rents in recent years in Calcutta is within the experience of most members of the Committee, and we consider that such enhancement might reasonably be expected to show itself in the Port Commissioners' revenue. We recommend that a survey and reassessment of these lands should be undertaken, and the rents raised where it may be found advisable and practicable to do so, at the earliest opportunity.

70. The rents on the Howrah side of the river are discussed in paragraph 44 of the Sub-Committee's report, and we agree with the conclusions arrived at that they are insufficient, and should be enhanced, and that the rates to be charged at the coal dépôt should, be recast on a tonnage basis.

71. An improvement in the system of collection is also necessary. The procedure suggested by the Sub-Committee in paragraph 45 of their report seems to us to be suitable, and should be adopted. At present there is practically no check on the outstandings. Every month, a list of all rents due for a longer period than three months should be laid before the Commissioners for orders, with information as to the steps taken to recover the sums due. The checking of the rent collections by the Test Audit Officer in the manner recommended by the Sub-Committee in paragraph 45 of their report is a matter to which the attention of the Commissioners should be directed.

#### HARBOUR MASTER'S DEPARTMENT.

72. Every vessel entering the Port is, on arrival at Garden Reach, taken over by a Harbour Master, who from that time remains responsible for every movement of the vessel until she is made over to the Pilot on her outward voyage. The staff of the Department consists of 23 officers, including 3 probationers. Their duties include the control of all movements of vessels, the supply of tugs, the dredging of the Port, the fixing and maintenance of all moorings, and dealing with all fires or accidents that may occur. They survey and license cargo and passenger boats, superintend the Moyapur Powder Magazine, and supervise an establishment for the disposal of floating corpses. Two surveyors and a small clerical establishment are attached to the Department.



## Receipts and Expenditure.

73. The revenue and expenditure of this Department during 1899-1900 were as follows:—

Receipts—		Rs.
Mooring hire	...	2,94,537
Harbour Master's earnings	...	1,99,665
License fees from boats	...	26,315
Earnings of <i>Tug Rescue</i>	...	22,362
Interest on reserve funds	...	12,222
Miscellaneous	...	17,438
Total		5,72,539
Expenditure—		
Salaries	...	2,39,392
Interest and Sinking Fund	...	1,06,354
Working expenses	...	48,750
Repairs	...	66,434
Police	...	50,553
Depreciation	...	55,110
Licensing boats	...	11,855
Proportion of general charges	...	69,633
Pensions	...	27,282
Miscellaneous	...	9,861
Total		6,85,224

74. The steadily increasing deficit in this branch of the administration has attracted our attention. Prior to the year 1894-95 the Department used continuously to show a surplus on the year's operations; since that date it has been worked as regularly at a deficit. Over a period of ten years the revenue, with the exception of one abnormal year, may be put at from  $5\frac{1}{2}$  to  $5\frac{3}{4}$  lakhs, while the expenditure during the same period has risen from  $4\frac{3}{4}$  to 7 lakhs of rupees. The true deficit is even greater than these figures show, for the mooring hire paid by vessels lying in the Docks is credited not to the latter, but to the Harbour Master's Department, which is wrong. The amount thus wrongly credited in 1899-1900 was Rs. 57,791. The deficit will be further increased if our proposal made in paragraph 50 is adopted, and mooring hire be no longer charged to vessels lying at the Jetties.

75. The main items on the receipt side of the account are two only, the mooring hire and the Harbour Master's fees. In recent years these may be put in round numbers at 3 and 2 lakhs of rupees respectively. During the last 10 years the number of vessels dealt with has increased by 15 per cent., and their tonnage has advanced by 51 per cent.; while the earnings on the above two heads which represent the work done for these vessels have advanced by 6.9 per cent. only.

76. The reason for this result is traceable in the scales under which the fees are levied. The scale of charges for mooring hire is nominally a tonnage scale, but it was framed when the average tonnage of the vessels visiting the Port was small, and makes no provision for increasing charges on vessels of more than 3,000 tons. All vessels of 3,000 tons and over pay a uniform rate of 15 rupees per day. The present scale was fixed in 1873, when the average tonnage of vessels visiting the Port was 1,228. In 1899-1900, the average tonnage had risen to 3,104, and 631 vessels had a tonnage in excess of 3,000 tons. It is clear that the old scale has become inappropriate, and should be revised to suit the altered conditions of trade. We are informed that there will be no difficulty in devising a suitable sliding scale rising above 3,000 tons, and we recommend that this may be done.

77. We suggest no alteration in the fees charged for Harbour Master's services in transporting, docking or undocking vessels. These appear to us sufficient, though, as they are independent of tonnage, they can only show a very slow development.

78. We have considered whether the charges for licensing cargo and passenger boats should be revised. This has been suggested by Babu Nalin Bihari Sircar (Appendix A, page 83). The rate originally charged was 8 annas a ton, but this was reduced in 1883-84 to 3 annas a ton. The average charge per boat is about Rs. 5 a year. The total receipts amounted in 1899-1900 to Rs. 26,315, and the charges to Rs. 11,855. The total number of boats licensed was 5,198. These boats use the Docks free of charge, and cause considerable trouble and some expense. It would, in our opinion, be quite justifiable to raise the fees so as to obtain a considerable income from them. But as the other recommendations we make will, if accepted, considerably improve the revenue and reduce the expenditure of the Trust, we abstain from making a specific proposal on this head, merely indicating it as a possible source of revenue.

79. For the same reason, we do not recommend that steps should be taken at present to legalize the levy of license fees on private-owned cargo boats, of which there are a considerable number in the Port. The licensing of these is expressly provided for by section 6 (1)(k) of the Indian Ports Act, X of 1889. But, by what seems to have been an oversight, the law makes no provision for levying a fee for the license in the case of boats not plying for hire, and the late Advocate-General has advised that it is not legal to do so. So long as the Port Trust can do without the revenue that might be derived from these boats, we make no recommendation: but we desire to indicate them as a legitimate source of income if necessity should arise hereafter, and subject to the necessary amendment of the law.

80. In examining the expenditure of this Department, we find that there has been a general increase of charges on the main heads in recent years. Under the head Establishment, this is chiefly due to increase of pay and to the addition of the Tug *Rescue* to assist vessels between the Jetties and Docks. No reduction in the existing staff of Harbour Masters appears to us advisable.

81. In working expenses there have been large fluctuations. The average of the last five years is almost double the average of the preceding five years. Between 1890-91 and 1894-95, the average annual cost was Rs. 33,000, while from 1895-96 to 1899-1900 it rose to Rs. 64,000. The difference is mainly accounted for by heavy expenditure in relaying moorings which is not a recurring charge, and by the additional expenses of the Tug *Rescue*. Similarly, we find that the cost of repairs has advanced rapidly. Repairs which ten years ago cost Rs. 26,000, last year reached the figure of Rs. 66,000. The number and description of boats on which this expenditure is incurred are practically the same throughout this period, with the exception of the Tug *Rescue*, the repairs to which last year cost Rs. 12,000. There is an all round increase in the repairs of this Department, and the only explanation that has been offered, namely, that it is due to increasing age of the stock, is not one which we can altogether accept. We are not entirely satisfied with the existing checks on expenditure on repair work, but this will be dealt with more fully when discussing the expenditure in the workshops.

82. We notice that the cost of the police establishment maintained at the Docks is debited to the Harbour Master's Department. This amounted during last year to Rs. 17,629, and should be debited to the Docks. The River Police, apart from the force employed at the Docks, cost Rs. 43,898, and of this three-fourths are paid by the Trust, and one-fourth by Government. The main duties of this force, as well as that employed at the Docks, consist of the preservation of the public peace, and we consider that a re-adjustment of the charges is equitable. On railways, where the main duties are in the interests of the administration, the cost of police is divided between Government and the administration in the proportion of three-tenths and seven-tenths, respectively, and we think that the same rule may reasonably be applied in the case of the River and Dock Police.



83. The expenditure on the Tug *Rescue* should be carefully watched. During the three years she has been at work, her earnings have not covered the cost of her establishment, much less the cost of working expenses or repairs. The total loss in the three years has amounted to Rs. 70,588. The fee charged for the use of the tug in moving a vessel from the Jetties to the Docks is Rs. 100. We do not recommend any increase of this fee, as it is inadvisable to make the compulsory move to the Docks any more burdensome on the shipping than at present.

Tug *Rescue*

84. We draw attention to the views expressed by the Sub Committee in paragraph 51 of their Report on the subject of a more economical system of fire-protection at the Docks.

Fire-protection.

#### PORT TRUST RAILWAY.

85. The relation of the railway to the other works of the Trust is that of an accessory. The part it plays is not strictly that of a Railway in the ordinary sense of the term, but rather that of a large and elongated shunting yard.

Port Trust Railway an accessory.

86. Our attention has been mainly given to the question whether the way and works are suitable for the purposes they are intended to serve, and whether the management is such as to yield the most satisfactory results. For convenience of treatment the railway may be divided into three sections, viz., (a) the line from Cossipore along the river face to the Docks, (b) the Dock Junction, and (c) the Shalimar branch. The Sub-Committee made a very careful investigation of the whole question, but their proposals for the improvement of the way and works chiefly concern section (a), or what may be termed the main line. We have already dealt with so much of this section as runs through

Way and Works.

\* *Vide* paragraph 47.

the Jetty premises,\* recommending various improvements which will facilitate the passage of through traffic at this point. The other improvements that are necessary are generally indicated in the Sub-Committee's report (Appendix D, page 255), and they describe the difficulties under which work is now carried out. We are not prepared to recommend any specific works, because, as the Sub-Committee have observed, the question is one for careful consideration by an Engineer, and it must be left to the Port Commissioners to determine to what extent and

Necessity for improvements.

in what way the line should be improved. But it is evident that, as at present arranged, it is impossible to handle satisfactorily the traffic which should be passed over it. The objects in view are, that the sidings should be so re-arranged as to leave two clear lines for up and down traffic, in order that the risk of blocks may be avoided, and to provide conveniences for the more prompt receipt and

Especially for the Jute Trade.

delivery of goods. In this way the Commissioners will be placed in a position to give exporters of jute, whose presses lie close to the line, and the trade generally, better assurance that the railway may be relied on for the supply of wagons at short notice in such numbers as may be required for the rapid transport of their consignments to the Docks. At present this is not possible, and shippers are compelled to use boats in order to make sure of delivering their goods at all times when required. But if the more expeditious route by rail is made available at all times, it will be to their clear advantage to use it.

87. By this means the Trust would gain the shipping charges on jute and other goods which would be shipped over the Dock quays instead of from boats which pay nothing.

Probable gain of traffic.

The gain to the trade and shipping would be the better despatch that both would obtain. Many of the mills for the manufacture of gunnies, however, lie beyond the Port Trust Railway, but are connected by sidings with the Eastern Bengal State Railway. We are informed that the latter Railway has not encouraged traffic from these mills, and it is the fact that many of them maintain a flotilla of boats for the carriage of their goods. It is understood that these also would resort to the railway route if they had an assurance of a constant supply of wagons at a moderate charge. It is possible that the Eastern Bengal

Traffic from factories outside Calcutta



State Railway would be disposed to consider the question favourably, as they will shortly be in a better position than they were before to handle the traffic, by reason of improvements made, or shortly to be made, in their terminal arrangements. We recommend that the management be approached on the subject, with a view to work out a scheme in communication with representatives of the mills. To the trade and the Trust the same advantages would follow as in the case of the Port Trust Railway; and the Eastern Bengal State Railway, while furthering other interests, would gain in its local traffic.

88. We also recommend that the Eastern Bengal State Railway may be approached with a view to secure the use of their line *via* Sealdah, as an alternative route from Chitpore, Hatkola, etc., to the Docks. It is possible that this could be arranged on terms advantageous to both undertakings, and the benefit to trade is beyond question.

89. We desire to invite attention to the remarks of the Sub-Committee in paragraph 63 of their report as to the prohibition of the running of trains along the Strand Road between 4 and 8 P.M. This causes an undoubted hindrance to traffic, and we observe that no such restriction is enforced in Bombay.

90. The recommendations of the Sub-Committee (paragraphs 60, 67 and 68 of their Report, Appendix D,) in respect of management are common to the three sections, and may conveniently be enumerated here. They are as follows:—

- (a) that the railway should be under the supervision of one responsible officer, instead of the present system of divided responsibility under which the Railway, Jetty and Dock Superintendents each have independent control in regard to wagons, and the movements of the same within their respective limits;
- (b) that the railway arrangements be placed entirely under a good railway subordinate who has experience of goods work and shunting;
- (c) that the Railway Superintendent should see to the prompt release of wagons every day, so that they shall be ready for the next day's traffic;
- (d) that registers should be kept in which *all* applications for wagons would be entered in the order of receipt, no deviation from the order being allowed except under instructions of the Superintendent. This is essential if complaints of favouritism in the allotment of wagons are to be avoided;
- (e) that for the purposes of control the entire Capital outlay on all works connected with the Railway, and all the income and working expenses, be separated from other accounts; and that in respect of work done for Foreign Railways the accounts be kept in such detail as will allow of the calculation of the charges, which should include interest, sinking fund, and control;
- (f) that consideration be given to the suggested purchase from railways of cheap stock, such as wagons which may be unfit for use on the main lines of railway, but are good enough for yard work and short distance running on the Port Trust Railway; and
- (g) that consideration be also given to the adoption of a class of wagon in the loading and unloading of which the least amount of labour will be required, as the labour is the chief item of expense.

We believe that the adoption of recommendations (a) to (d), coupled with the remodelling of the lines in the Jetty compound and the provision of two clear through lines, will be more efficacious in removing complaints of shortage of wagons than a mere increase in their number. The true cause of these complaints is not that the wagons are too few, but that the lines are blocked, and the wagons that should be available cannot be got at.

91. A proposal has been made on behalf of the Eastern Bengal State Railway that the Port Trust Railway should be placed under their management in order to facilitate the distribution of their traffic *via* their Chitpur Junction.

We do not recommend this proposal. Their present difficulties do not arise from any defect of management, but from the lines being insufficient for the passage of a large traffic. If these deficiencies are made good, the congestion of traffic complained of should disappear. The majority of us anticipate no economy of management from such an arrangement, and, as the Sub-Committee observe (paragraph 65), the movement of traffic over this section of the line "is so interlocked with the shipping arrangements, that it would not be possible either to devise the division of responsibility or to arrange the remuneration for working it."

92. Mr. Lightfoot thinks that the Port "would derive advantage by having this foreshore line from Cosipore to the Docks worked by a Railway administration, and would prefer the Government of India to decide what administration should work the Dock and this section of the Railway." The majority of the Commission, however, are distinctly of opinion that, for the reasons given in the Sub-Committee's report, and also from a general objection to the intervention of a foreign Railway in the business of the Port, section (a) must continue to be worked by the Trust.

The Railway should continue to be worked by the Port Trust.

93. All the members of the Committee are united in recommending that the charge for terminal services at the Shalimar coal depôt should be raised. The Trust has constructed a large coal yard and transports wagons delivered into it to the terminal sidings. For this they receive only one pie per maund, which is insufficient to cover the interest and Sinking Fund charges, and working expenses.

94. The majority recommend that the Shalimar Section (c) of the Railway should also continue to be held by the Port Commissioners and worked by them. This recommendation is in accordance with the conclusions we have come to in respect of the ownership and maintenance of the other sections of the Port Trust Railway.

95. Our attention was called to the many disadvantages resulting from the want of railway communication within the Port between the two banks of the river. This matter is under reference to another Committee, but we consider it our duty to indicate the importance to the trade of the Port and to the revenues of the Port Trust of a railway bridge from Calcutta to Howrah. For imports it would provide an alternative route to the distributing markets up-country, and would encourage the landing of goods over the Jetties instead of by boat to Howrah. For exports it would provide an alternative route for goods going to the Docks for direct shipment, and it would place jute and other mills on the west bank of the river in direct railway communication with the Docks.

96. The Dock Junction has been treated separately, and has been very carefully considered, because an important proposal has been made regarding it, and we are not unanimous in our conclusions.

The Dock Junction.

The Dock Junction is the short section of the Port Trust Railway, which takes off from the Budge-Budge branch of the Eastern Bengal State Railway and runs to the Docks. It bifurcates into two branches, one running alongside the coaling berths on the site of Dock No. 2, and the other terminating at the new wheat and seed sheds on the east side of the boat canal (or at transit sheds in the case of goods for direct shipment). At present the traffic is worked entirely by the Port Trust. It is suggested in the Sub-Committee's report that

the Junction in both its branches should be handed over to a railway for management. The intention

was that the Railway administration should, in the case of goods intended for storage, hand them over at the wheat and seed sheds, and in the case of goods for direct shipment, at the transit sheds: and that beyond these points, *i.e.*, within the Dock premises, the haulage, shunting, etc., should be carried out by the Port Trust. In the case of coal the suggestion was similar, except that the Railway administration would be required to shunt the wagons into position alongside the loading vessels at the coal berths. At present the Port Trust do the whole of this work themselves, having provided their own locomotives and the requisite staff: and in return they receive a terminal charge from the Railways concerned of 1 pie per maund. This terminal charge is insufficient to cover the cost, and the work is done at a loss. We are unable to ascertain

precisely what this amounts to, as the accounts are not kept in a manner which admits of an accurate separation of the charges; but it has been roughly estimated at not less than Rs. 70,000 to Rs. 80,000 a year, and we accept this for our present purpose.

97. It has been urged upon our consideration by Messrs. Muirhead and Lightfoot that the transfer to a Railway administration should be made for the following reasons:—

Arguments in favour of transfer.

- I.—Terminal arrangements of railways bringing traffic to the Port should be provided out of the Capital of the Railways concerned.
- II.—Railways contract to perform many services at their termini. These are included in their rates, and should be completed under the original contract and not allowed to form part of the Port Trust expenditure and thereby become additional charges upon the trade of the Port.
- III.—It is in the interest of the trade that there should be no divided responsibility while goods are in transit, and that the liability of the carrier for blocks and detentions should be maintained until arrival at destination, against the Railways rather than against the Port Trust.
- IV.—The Port Trust is unable to suddenly expand its railway staff to provide for a rush of traffic, and has not sufficient information regarding up-country despatches to enable it to regulate bookings in such a way as will prevent congestion at the terminus, and the consequent loss to the trade when its capacity has been exceeded.
- V.—There will be considerable saving in establishment to the Port and the Railways jointly, while the present loss to the Port on working would be converted into a profit, if, as may safely be anticipated, the Railways will agree to pay a rent charge equal to the interest on the expenditure at the rates payable on existing loans.
- VI.—The Port Trust is assuming a duty which is beyond its functions, and for which it has no special capabilities; this has, in the past, caused discontent to the public and loss to the Trust, and it is feared that it is quite within the bounds of probability that it will do so again, and in that case, the results may be still more disastrous than those of the block of 1898, as the traffic is increasing.
- VII.—It has been argued that the primary object of a Railway is to earn a dividend, but it is contended that in the same way it is also the primary object of Trade to obtain a profit, and that the interests of Railways and Trade are so interwoven that a railway, whose dividends depend upon successful working is more likely to fall into the views of the trade than a Port Trust which is bound to maintain equilibrium, and realise the interest on its loans and the cost of its establishment under any circumstances.
- VIII.—The system of a railway working on behalf of a Port Trust has been successful at Karachi.

98. Mr. Muirhead advised that the East Indian Railway should take over the working of the Junction. Mr. Lightfoot, however, in view of the fact that four railways are interested in the matter, considered that it should be worked by a Joint-Committee on which the Port Trust should be represented, on the model of what is known as the Cheshire lines system.

99. The remaining members of our Committee, while acknowledging the weight that attaches to the view of our colleagues in such a matter, are unable to accept the proposal in either form. Our principal reason is that it is in our opinion altogether against the best interests of the Port to allow the terminal arrangements to pass in any way out of the control of the Port Trust, and into the hands of a foreign agency, specially one whose primary object must necessarily be the earning of dividends, rather than the provision of facilities for trade. No such alienation of the authority of the Trustees would, in

Not recommended.



our judgment, be justifiable, unless it were conclusively shown to be necessary on either administrative or financial grounds or both. In the present case this has not been done. There is no suggestion that the management of the Dock Junction by the Port Trust has been inefficient. Nor are we satisfied that any financial gain would ensue, for in the estimate of profit no allowance is made for the cost of shunting within the Dock premises which must be borne by the Trust in any case, and the present estimated loss will be wiped out and converted into a gain if the terminal charge of one pie per maund is increased, as we are all agreed in recommending. Even, however, should there still remain some net loss on the working of the Junction, we are of opinion that it should be accepted in preference to entrusting the control of the terminal arrangements to a foreign body. We are informed that this view is likely to receive general concurrence in commercial circles in Calcutta. It also appears to us that the present arrangement by which the Port Commissioners own and administer the belt line of railway connecting the Jetties and Docks with the trunk lines serving the Port possesses all the merits of the Joint-Committee or Cheshire lines system, with the added advantage that the *debouchure* of the Port of Calcutta is managed by the trade for the trade, and not in the interest of shareholders.

#### PORT APPROACHES.

100. The Port Approaches Department deals with the survey, buoying and lighting of the Hooghly. It prepares and publishes charts of the river, issues daily notices to pilots, and generally provides assistance and information to facilitate the navigation of the river. These duties were taken over from Government by the Commissioners in 1881-82.

101. When taken over, the revenue of the Department was derived from a Port due levied on all shipping entering the Port of 4 annas a ton. The finances of the Port Trust were at that time in a flourishing condition, and the Commissioners decided to meet the charges on account of the approaches from their general revenues. They accordingly reduced the Port dues to 3 annas a ton in the first year, and to 1 anna in the next, and finally abolished the charge in 1884. When in 1892-93, the surplus revenues of the Trust became insufficient to meet the interest charges on the Dock loan, the Commissioners were compelled to reimpose the Port dues. From December 1892 up to the present time these dues have been levied at the maximum legal rate of 4 annas per ton. Apart from petty miscellaneous receipts, the Port dues are the only source of revenue of the Department. They produced during 1899-1900 Rs. 4,81,793, the total income of the Department being Rs. 4,96,990. The income has never yet been sufficient to cover the expenditure. The deficit has averaged Rs. 1,02,488 per annum over the period from 1893-94. We have considered both whether an increase of revenue can be obtained or a reduction of expenditure effected.

102. With regard to the revenue, the dues as now levied are imposed only once in sixty days. Much of the coasting trade, therefore, does not pay every time that it enters the Port. It has been suggested that this time limit should be withdrawn, or made to correspond with the Bombay limit which is thirty days. We do not recommend that any alteration should be made. We find, on comparing the dues with those levied at Bombay, that the rate there is only one anna per ton, and considerable concessions in other rates and charges are made to coasting vessels. The true policy of the Trust is to aid in the development of the coasting trade as far as it is possible to do so.

103. An item of traffic which escapes all share of the Port dues is that brought down by flats in tow of inland steamers. The dues are charged on the tonnage of the steamers only, while the flats pay nothing: the steamers pay only once in six months. We have considered whether the dues should be levied on the tonnage of the flats as well as on the steamers. A note received from Mr. Currie of Macneill and Company will be found in Appendix E, page 338. We are of opinion that there would be nothing inequitable in levying the dues on the flats, the more so as they are chargeable only twice a year. But the traffic they bring

competes with that carried by the Eastern Bengal State Railway, and looking to the fact that these vessels navigate only a comparatively short length of the Port approaches, that their draught is so small that the river surveys are of little advantage to them, and that practically the whole of the goods they carry pay the Special Toll on export from the Port, we consider it inexpedient to impose further charges upon them.

104. The only other method of increasing the revenue is by amending the Indian Ports Act to admit of a higher rate than the present maximum of 4 annas. As we consider that the existing charge is a sufficiently heavy tax, we are not in favour of such a course.

105. Turning to the expenditure side of the account, we have examined the establishment charges in detail, and can make no suggestion for a reduction of the staff. The recent heavy increase in officers' pay which stands in the current year's budget at Rs. 43,560 as against Rs. 25,920 five years ago, is due mainly to the appointment of an Assistant Conservator the necessity for whose services has been accepted by Government. The Deputy Conservator has laid before us an interesting note (Appendix II, page 69) showing the development of the Department since it was taken over by the Port Trust, and explaining the nature of the work now done by it for the shipping of the Port. We recognize the great improvements that have been effected, and the extreme importance in particular of the survey work that is now being done under Captain Petley's directions, and we are unable to recommend any reduction in the establishment employed for this purpose.

106. The cost of repairs to vessels has risen as in the case of the Harbour Master's Department, though the block maintained has altered little in recent years. There are large fluctuations from year to year, but on an average the expenditure of the last five years exceeds that of the preceding five years by Rs. 20,000 per annum. There appears to us to be room for economy under this head. We deal more fully with the subject in connection with the workshops.

107. We see little prospect of avoiding a deficit in the working of this Department. The receipts may increase slowly as tonnage increases, and we recommend that a more careful watch on the details of repair expenditure be exercised in the future than has been the custom in the past.

#### KIDDERPORE DOCKS.

108. The financial difficulties of the Trust centre round the Kidderpore Docks on which more than half the Capital debt of the Trust has been expended. This large outlay is at present unremunerative. The traffic that was anticipated before their construction has not come: importers decline to use them, and exporters find more economical methods of shipment for a large proportion of their business. In spite of these difficulties, the traffic of the Docks is increasing, and, as special facilities are given to one line of business after another, is likely to increase more rapidly in the future. The increase will be largely dependent on the improvement of Railway facilities, such as we have recommended above. It is only by improvements in the Railway that the Commissioners can hope to attract the large traffic in jute and gunnies which is now transferred from boats to vessels actually within their Dock premises, and which contributes nothing to the revenue of the Docks.

109. It is not within the province of this Committee to deal with the original policy of the construction of the Docks, but we entirely endorse the opinion expressed by Mr. M. C. Turner in his evidence before us (Question No. 1322) that the Docks are at the present day a necessity to the trade of the Port. Our enquiries have been directed to a consideration of the question of the accommodation provided and the possible need of extension, together with the efficiency and economy of working.

110. The original scheme included the provision of two Docks. One only has been constructed up to the present, but the subsidiary works—entrance, tidal basin, canal, pumping machinery, etc., have necessarily been carried out.

111. The Capital cost of the Dock works stood at the close of 1899-1900 at Rs. 3,34,44,870, and the further expenditure against Capital account estimated for the current year is Rs. 29,42,624. Of this amount, the Government

loan for the original works accounts for Rs. 2,87,70,566. The remainder of the capital has been raised by debenture loans from time to time.

112. The revenue and expenditure during 1899-1900, and as estimated for the current year, are:—

	Actuals, 1899-1900. Rs.	Estimated, 1900-1901. Rs.
Receipts ... ..	16,50,063	18,27,500
Expenditure—		
Working charges ... ..	17,37,683	16,50,371
Interest and Sinking Fund ... ..	13,54,483*	14,86,530*
Total ... ..	30,92,174	31,36,901

The Docks first came into general use in the year 1897-98. Since that date, the annual deficits have stood thus:—

	Rs.
1897-98, actuals ... ..	15,37,394
1898-99, " ... ..	14,67,949
1899-1900, " ... ..	14,42,111
1900-1901, estimated ... ..	13,09,401

No charge has yet been debited to this account for Sinking Fund on the original Government loan of Rs. 2,87,70,566, but this charge which, under existing arrangements, becomes payable in 1910, will, if the proposals we have made in an earlier part of this report are accepted, not affect the general financial position of the Trust.

From the above figures it is clear that the efficiency of the Dock management is a point of the utmost importance.

113. Conflicting views have been expressed as to the sufficiency of the accommodation provided to meet the probable expansion of trade in the near future. In considering this point, we leave out of account any probability of the transfer of the import trade to the Docks for reasons given in our remarks on the Jetties.

114. In Dock No. 1 there are 12 berths available for general export cargo. In the Tidal basin there is one berth now used for coal, which could be made available for general cargo. Within the site of the proposed Dock No. 2, four berths have been constructed for coaling and two more are under construction. Three berths have been provided for the use of the salt trade.

The berths for general cargo are provided with ample shed accommodation. The traffic to be provided for is fairly regular throughout the year. The busy seasons for jute and tea coincide with the slack times for wheat and seeds. At the present time the berths are occupied for little more than half the time available; the proportions being 59 per cent. occupied to 41 per cent. unoccupied. When all 12 berths are working, an average day's shipment amounts to from 6,000 to 7,000 tons. At times of pressure 1,000 tons a day could easily be shipped at each berth. Taking as a minimum 500 tons a day per berth and 25 working days a month, the capacity of the Docks is 1,800,000 tons a year; and if any real pressure existed, this capacity could be considerably increased. We consider it a moderate estimate to place the capacity of Dock No. 1 at 2,000,000 tons a year, and this leaves out of account an extra berth available in the Tidal basin.

115. The total tonnage of the export trade of the Port can only be arrived at approximately. The figures for three years are given in Appendix C, Statement No. 6. For the years 1898-99 and 1899-1900, it was about four million tons (including coasting trade) of which coal was in round figures 1,750,000, leaving 2,250,000 tons as the total export of general cargo for which Dock No. 1 is provided. Of this, the total volume of general cargo, exclusive of coal, which was dealt with at the Docks during the past two years was 619,911 tons and 688,741 tons respectively, or less than one-third of the full capacity of the Docks.

\* Of these amounts, Rs. 11,50,823 in each year represents interest on the Government Dock loan of Rs. 2,87,70,566. The remainder represents interest and Sinking Fund charges on debenture loans.



116. These figures show that the accommodation now provided is not far short of that which would be required if the Port Commissioners could attract the whole of the general export trade. There is little or no prospect of such a result being obtained, as much of the cargo will continue to be shipped over-side from boats either in the Docks or in the stream, at any rate for many years to come. When, however, expansion does reach the point at which additional berths become a necessity, these can readily be provided by gradual extension in a way similar to that in which the coal berths have been constructed. The accommodation can be kept a little in advance of the traffic by the provision of one or two berths at a time. No large capital expenditure is therefore required at present; and if it should be needed hereafter, it can be foreseen and spread over a number of years.

117. Of the individual trades for which special accommodation is provided in the Docks, the most important at present is the coal trade.

The Coal Export Trade. When the Docks were originally designed and constructed, the export coal trade of Bengal hardly existed, and no one anticipated that it would grow to the dimensions at which it now stands. The expansion of this trade, during the last five years, has been so great that it has necessitated the provision of entirely new arrangements for its accommodation in the Docks. Before examining the efficiency of those arrangements both as now existing and as in course of development, we have attempted to form a reliable estimate of the volume to which this trade may possibly expand during the next few years. On this subject much difference of opinion has been evident. The rapid expansion of the past does not necessarily imply an equal or greater rate of expansion in the future.

118. The total export of coal from Calcutta in the last five years and the quantity shipped at the Docks are as follows:—

		1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.
		Tons.	Tons.	Tons.	Tons.	Tons.
To Foreign Ports	...	79,986	132,448	205,145	325,571	303,982
" Indian "	...	351,025	544,582	926,302	969,148	875,703
Bunker coal	...	384,522	426,690	491,117	504,695	502,234
Total	...	815,533	1,103,760	1,622,564	1,799,414	1,681,919
Shipped from the Docks	Tons ...	105,842	386,490	672,747	877,895	870,347
	Percent- age ...	12.9	35.0	41.4	48.8	51.7

Estimates of probable future expansion.

119. At the outset of our enquiry, we were informed that proposals for the introduction of mechanical loading of coal at Kidderpore contemplated plant capable of handling 7,500,000 tons. In examination Mr. Macleod, representing the Indian Mining Association, stated in answer to question No. 772 that he considered this a fair figure to cover expansion for the next five or six years; and replying to question No. 851, he anticipated that the foreign trade alone might reach 3,000,000 tons. In a memorandum with which he subsequently favoured us (Appendix F, page 343), he estimated the total exports at not more than 3,000,000 tons (exclusive of bunker coal) for several years to come, on the assumption that Bengal coal succeeds in ousting its competitors. The Hon'ble Mr. Ashton in his statement considered that the future demand could not be measured by the present. Judging by the analogy of development in other countries, he anticipated a growth more rapid in the future than in the past.

120. Less sanguine views of the future possibilities of expansion are presented in the information furnished to us by Mr.

Mr. Cable's forecast.

Cable. The details of Mr. Cable's examination will be found in Appendix B, page 163. His evidence contains a carefully considered estimate of the future export coal trade of Calcutta, with due regard

to the limitations imposed by the geographical situation of the Port, and by other competing sources of supply. Mr. Cable has also been good enough to place before us the opinions of his correspondents in various ports. None of these point to the expectation of any rapid growth of the trade.

121. The natural limits placed on the Bengal export coal trade are the Suez Canal on the west and the Straits Settlements on the east. It is improbable that Bengal coal can ever compete with English coal west of the Canal, burdened as it must be by canal dues. It could not, for instance, hope to go to Port Said, though it is conceivable (but very improbable) that Suez might supersede Port Said as a coaling station. On the east, Japanese coal comes into competition in the Straits Settlements, and has at present an advantage both in price and quality over Bengal coal.

Figures giving the imports of coal from all sources into the ports lying between these limits, have been collected as far as available for the three calendar years 1898, 1899, 1900. These are given in the following statement. Side by side is given the estimate framed by Mr. Cable of the probable development of the Calcutta trade during the next three years:—

*Imports of Coal into Ports between Port Said and Singapore.*

PORT.	1898.		1899.		1900.		Estimate framed by Mr. Cable of the probable exports from Calcutta within three years.
	From Calcutta.	From other places.	From Calcutta.	From other places.	From Calcutta.	From other places.	
1	2	3	4	5	6	7	8
Foreign Ports—	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Port Said ...	.....	1,004,096	.....	1,074,590	.....	.....	.....
Suez ...	.....	20,052	.....	15,303	3,130	} Figures for 1900 not yet available.	} 250,000
East Coast of Africa ...	.....	10,862	.....	8,528	5,135		
Aden and Perim ...	14,416	144,220	4,000	144,528	39,538		} 200,000
Persian Gulf ...	250	2,808	...	1,902	.....		
Mauritius ...	1,870	44,405	8,805	.....	11,191		.....
Ceylon ...	213,852	260,665	163,907	334,568	335,465		500,000
Straits Settlements ...	83,528	427,650	81,998	470,786	90,163		150,000
Total Foreign Ports ...	313,916	1,914,408	258,770	2,050,210	484,622	.....	1,100,000
Indian Ports—							
Madras and East Coast Ports ...	264,045	41,341	272,166	12,605	199,942	} 82,567	200,000
Burma ...	172,561	26,967	195,875	34,556	217,244		220,000
Bombay ...	449,802	214,759	399,121	317,939	824,080		} 800,000
Karachi ...	20,801	10,374	.....	51,059	4,730		
Total Indian Ports ...	906,709	293,441	867,162	416,159	1,245,996	.....	1,220,000
GRAND TOTAL ...	1,220,625	2,207,849	1,125,932	2,466,369	1,730,618	.....	2,320,000
Bunker Coal (Calcutta) ...	497,091	.....	503,847	.....	115,140	.....	680,000
Total including Bunker Coal ...	1,717,716	.....	1,629,779	.....	2,345,758	.....	3,000,000

These figures indicate that, in Mr. Cable's opinion, the current demand for Bengal coal at Indian Ports has reached the maximum which it is likely to attain under existing conditions.

122. We have considered this estimate in detail, and accept it as the most reliable that can be framed for our present purposes. The chief consumer of Bengal coal among Indian Ports is Bombay, which took 824,080 tons in 1900. In that year only about one per cent. of the total imports into Bombay came from other places. It thus appears that Bengal coal has (at present prices) captured the entire trade, if the demand remains at its present figure. There is reason to believe that Bombay was overstocked last year, and the ensuing year's demand will be less. An important factor in the large advance in the export to Bombay



in 1900, was the high prices ruling for Welsh coal. That those prices will be maintained at their present level is doubtful, and if they fall, as they are already beginning to do, the demand in Bombay for Bengal coal is more likely to diminish than to increase. The demand from Bombay will, doubtless, increase with the development of industrial enterprise; but this development must be gradual, and we anticipate that for the next year or two, the figures of last year's export to Bombay (824,000 tons) will not be exceeded, and will very probably be reduced.

123. Similarly, we consider that the current figures for the supply of Madras and Burma are practically the maximum that will be obtained for some years to come. In both cases the margin of the total demand of recent years not supplied by Bengal is a narrow one. There are no apparent reasons to anticipate any large expansion, and serious competitors of Bengal coal are already entering both markets, viz., Singareni coal in the case of Madras, and oil fuel in the case of Burma.

124. Among foreign ports, the chief consumers of Bengal coal at present are Ceylon and the Straits. The former, which is the largest consumer at present, may possibly increase its demand to the figure we have estimated it at, namely, 1,00,000 tons; but here again oil fuel is entering into competition, and the falling prices of Cardiff coal are against any rapid increase. The development of trade with Singapore and other Straits Settlement ports is unlikely to be of importance in the face of the competition of Japan coal, which at present commands this market and is likely to retain it.

125. A more doubtful factor is the growth of the existing small trade with the East Coast of Africa, Aden and Suez. There are possibilities of development in this direction. The traffic last year amounted to 59,000 tons only, and in estimating its future at a possible 450,000 tons, we consider we are making a very liberal provision. It was suggested in evidence by the Hon'ble Mr. Ashton (question No. 1738) that the Port Said coal trade might be transferred to Suez and be captured by Bengal coal. We do not shut our eyes to the possibility of this; but we regard the contingency as altogether too remote for practical consideration.

126. Mr. Ashton also suggested (questions Nos. 1722-1728) that the demand for coal for domestic consumption might develop, though he was unable to offer any estimate of the probable increase. We are of opinion that the cost of carriage by rail and still more by road, will be prohibitive of any material increase of this demand. Beyond a very short radius from the port of importation it will not be able to compete with the fuel ordinarily in use.

127. Some increase in the coal used for bunkers is to be expected. Putting this at 680,000 tons, we arrive at a total probable export from Calcutta during the next two or three years of 3,000,000 tons.

128. The greater part of the coal used by the fleet of the British India Company is now shipped from a wharf at Bracebridge Hall belonging to the Company. Coal for bunkering purposes is very seldom shipped from the Docks. We do not anticipate that these arrangements will be altered in the near future. The shipments from Bracebridge Hall are approximately 300,000 tons a year.

129. Out of the total of 3,000,000 tons thus arrived at, we are forced to estimate that the maximum demand on Dock facilities will not exceed 2,300,000 tons in the next few years.

The four coaling berths in the Docks, with existing methods of handling by coolie labour, are capable of loading at least 1,000 tons a day at each berth, and more probably 1,200 tons. Assuming only 25 working days per month, this is equivalent to 1,200,000 tons a year. According to figures supplied by Mr. Apjohn, the Docks actually dealt with 1,347,510 tons during the year 1900. With the two new berths now under construction, a minimum capacity of 1,800,000 tons per year may be expected. This outturn presupposes manual loading only; but the Commissioners are about to instal

Accommodation now being provided is abundant for probable expansion of the trade in the near future.



mechanical appliances, the details of which we do not touch on, as the matter has been dealt with by a Special Committee. Such mechanical appliances will, we are informed, at least double the outturn possible for each berth. The provision of these appliances at two berths only would then enable the six berths when in working order to ship 2,400,000 tons per annum. If they are installed at all six berths, the latter will be capable of handling 3,600,000 tons a year. Moreover, there is room alongside the present staithes for at least three additional berths, which if duly equipped will increase the total capacity by 50 per cent. or to  $5\frac{1}{2}$  million tons a year, exclusive of bunker coal and coal shipped at Bracebridge Hall. These figures are so greatly in excess of the best estimates of probable exports during the next few years that we unhesitatingly arrive at the conclusion that the provision for the coal trade at the Docks, taking account of the increased accommodation now being provided, is sufficient for the requirements of the trade.

130. So far as the provision of accommodation and arrangements for labour are concerned, we consider that the Commissioners have anticipated the demands of the trade, and have, in fact, been ahead of the traffic with which they have had to deal. Mr. Macleod expressed this view in reply to question No. 886. He said:—

Facilities provided have kept pace with the supply of coal for export.

"I think the trade owes a good deal to the Port Commissioners for what they have done for the coal trade. It expanded very suddenly in a very short period, and we give them credit for what they have done for us, but we say that the trade has reached a stage when some permanent scheme should be taken in hand."

Mr. Cable also spoke emphatically on this point in his reply to question No. 1090:

"I may say this as my distinct opinion that the Dock facilities, as they are now, are at least two years ahead of the East Indian Railway."

We have referred above to the proposals of the Port Commissioners for the introduction of mechanical loading appliances, to take the place of cooly labour. Having regard to the figures given above, we consider that that scheme in its original form, which sought to make provision for 7,500,000 tons per annum, was perhaps too much in advance of trade requirements. Expenditure on such a scheme would not be justifiable at present. A more moderate programme, including the completion of the two berths in progress, with the addition of mechanical appliances to these only, will meet the necessities of the near future, and will admit of rapid and easy extension as demands may increase.

131. The same considerations lead us to the conclusion, which we desire to emphasize strongly, that there is no present necessity to seek relief for a trade that is sufficiently provided for at Kidderpore by the construction of a new coal dock either at Kidderpore, at Luff Point, or elsewhere. Schemes, such as that for constructing a new dock at or near Luff Point can only be worth considering if it can be shown that a reduction of charges is practicable below the figure to which they can be reduced at Kidderpore. It is true that Kidderpore is not the nearest point from which the produce of the Bengal coal-fields could reach the sea. It is true that it is separated from them by the Hooghly river. But the difference in distance is trifling; there is reason to suppose that additional railway communication with Calcutta, on one or both sides of the river, will before long have to be provided for general traffic; and if our inferences from the evidence before us are correct, there is little reason to expect that the export coal trade will grow to such a figure as to require an entirely new and independent railway to the sea. The trade of the Port must eventually bear the whole of the charges involved in such proposals. As long as existing arrangements suffice, and we believe they will suffice for many years to come, any proposal for large Capital expenditure elsewhere to supplement them seems altogether premature. We have no desire to dogmatize on so uncertain a matter, and we are perfectly alive to the possibility that our forecast of the future course of the coal trade may be falsified by results. But it is the best we have been able to make after careful weighing of the information placed

No present need for an additional dock for coal, either at Kidderpore or elsewhere.

before us. And if, as we anticipate, it proves to be approximately correct, we are clearly of opinion that the total volume of the export trade in coal, present and prospective, is not sufficient to make it economical or necessary to divide it between two ports of shipment.

132. The aim of the Commissioners should be to reduce the charges for shipment at Kidderpore as far as it may be practicable to do so, and if this is done, we have the evidence of Mr. Macleod representing those chiefly interested that exporters as a body have no desire to abandon Kidderpore for any other site. Such reduction in charges can be effected by the introduction of mechanical loading appliances. We have received proposals from Messrs. Bird and Company, the present labour contractors, for an immediate reduction in the form of a rebate on all quantities handled over 75,000 tons per month (Appendix E, page 322). This subject we recommend to the early attention of the Commissioners.

A further small possible saving is pointed out by the Sub-Committee in paragraph 91 of their Report. They suggest the use of Tip buckets in conjunction with the hydraulic cranes now available at the berth in the Tidal basin.

We think that endeavours should be made to induce vessels to take in their bunker coal from wagons on the quay at the Docks. We are informed that this was attempted and given up as unsatisfactory. The system is in force elsewhere, and we see no real grounds for opposition to it in Calcutta. The Dock revenue would gain by the wharfage on the coal, and it would probably be a matter of convenience to the shipping.

133. In addition to the special accommodation for the coal trade, extensive works have been carried out for dealing with the wheat and seed trade. These works are approaching completion, and though it was at first anticipated that they would be ready in every respect by the beginning of March we have been informed by the Vice-Chairman that difficulties have since arisen which will postpone the final completion till the close of that month. This matter is further referred to in paragraph 178, below. The insufficiency of earlier arrangements for this trade was demonstrated by the confusion and loss that occurred in 1898 when the traffic was suddenly transferred to the Docks before any special preparation had been made to receive it. Since that date the Port Commissioners have, in consultation with the trade, laid down special sidings, and built spacious sheds in which goods not intended for direct shipment can be deposited and dealt with at the convenience of the trade. The provision appears to us to be complete as far as can be judged before actual trial has been made of it, and there is good reason to anticipate that the bulk of the wheat and seed trade will in future be transferred to Kidderpore.

134. For the salt trade also special accommodation has been provided. This has not been taken advantage of to the extent that was anticipated, owing mainly to the fact that vessels bringing salt also as a rule bring other cargo as well. The latter they discharge at the Jetties, and they find it advantageous to discharge the salt simultaneously overside into boats. It is open to doubt whether the salt trade really requires accommodation at Kidderpore; but if it does, the course suggested in paragraph 96 of the Sub-Committee's report should be considered by the Trustees.

135. As has been shown above, the capacity of the one Dock now existing is sufficient to deal with a far larger traffic than is now handled, and the main problem before the Commissioners is how to attract that traffic to the Dock, or rather to their Dock sheds. At present a very large proportion of the cargo shipped in the Docks is taken in overside from boats, and from this the Commissioners derive no revenue except the Special Toll. To whatever extent the Commissioners may improve their facilities, some portion of the exports will continue to use this method of shipment, namely, that which comes from mills or other sources on the opposite bank of the river.

The traffic in which the largest margin for expansion exists is gunnies; of these some 406,000 tons are annually exported, of which only about 3 per cent. passes over the Dock quays. Mr. Nicoll, in his reply to question No. 403,



estimated that the mills having railway sidings could put 158,000 tons into the Docks by rail if they were provided with reasonable facilities in respect of wagons and rates.

136. It has been suggested by Mr. Apjohn that the provision of a boat wharf at Hastings to which mills could boat their produce and there load it into the Commissioners' wagons for transport to the Dock sheds would justify the exclusion of boats from the Docks, and would be accepted as a satisfactory arrangement by shippers as relieving them of the uncertainty and delay caused by the block of boats at the Dock entrance. This view was not supported by Mr. Ross who, in his reply to question No. 262, held that shippers as a body would not welcome the proposal. Mr. M. C. Turner also (question No. 1198) pointed out further drawbacks to it. Mr. Nicoll, as representing the mill-owners, believed that such a wharf would be of use provided charges were not excessive. Mr. McKewan, answering questions Nos. 953 and 954, said that though the wharf would be useful, no one would use it if they could avoid doing so on account of the extra charges.

We are agreed that the proposal is not one to be recommended. It has none of the advantages of direct transport by rail; it would introduce a double handling of goods for which shippers generally would be unwilling to pay; and it would tend to perpetuate the use of cargo boats for a traffic which the Trust should aim at obtaining without their intervention.

137. Railway facilities the Port Commissioners can, up to a certain point, themselves provide; but it is necessary that they should go beyond this, and press on the management of the Eastern Bengal State Railway the importance (1) of quoting moderate rates at Railway risk that will compete with boat traffic, (2) of providing wagons of a type suitable to the traffic to be served, and (3) of maintaining a regular daily service. On these matters the mill-owners are certainly at present not satisfied; and until their reasonable requirements are met, both the Eastern Bengal State Railway and the Port Trust will continue to lose a considerable revenue that might be obtained from the mills. That exporters would use the Railway in preference to cargo boats if rates and conveniences were adjusted to meet their views is clear from the evidence placed before us.

138. A minor means of increasing revenue is to encourage the unloading of cargo boats on to the Dock quays. This may be done to some extent by an alteration of the system of granting Dock receipts. The subject is dealt with fully in the concluding portion of paragraph 74 of the Sub-Committee's report, and we recommend it to the Commissioners both as a possible means of increasing their business and as a method of satisfying trade requirements.

139. The incidence of the present shipping rates has been considered by the Sub Committee in paragraph 102 of their Report. The rates in no case appear to us too high, and in the case of gunnies, and to a less degree, jute, an increase would be justified. For the main staples of export traffic the current shipping rates are, for coal, rice, wheat and seeds, 8 annas a ton; for jute 11·2 annas; for gunnies 6 annas; and for general cargo the average rate is one rupee per ton. With the exception of the rate for coal, none of these charges have been called excessive by the witnesses examined. One, namely, that for gunnies, 6 annas a ton, we consider distinctly too low, and it should be raised. Traffic in this commodity has not been attracted by the low charge, and is much more likely to be brought to the Docks even at a higher shipping rate, if reasonable railway facilities are given. In a less degree the same applies to jute which is now shipped at 2 annas a bale, equivalent to 11·2 annas per ton. We consider a slight enhancement of this rate would not affect traffic or unduly burden the trade.

140. The remarks in the foregoing paragraphs are subject to the general principle which we have recommended for acceptance in paragraphs 35 and 36 of this report, viz., that the principal source of revenue of the Port should be River dues, and that the charges made for special services should be



reduced to a minimum. If the financial position of the Trust should be strengthened as a result of our recommendations or in any other way, these proposals for an increase in shipping charges, though equitable, may be set aside as unnecessary.

141. We do not consider that it would be possible to reduce the shipping charges on coal. Coal is shipped for a rate of 8 annas a ton if loaded direct from wagons, or of 10 annas if first dumped and loaded from the stack. As about half the quantity is dumped, this is equivalent to an average rate of 9 annas per ton. Mr. Macleod represented that these charges were distinctly oppressive, and urged that reduction should be given. He advocated the employment of departmental labour as likely to result in more economical working. The share of the shipping charge that now goes to the contractor is  $5\frac{1}{2}$  annas for coal loaded direct, and  $7\frac{1}{2}$  annas for coal first dumped. None of the evidence laid before us has given us any basis for holding these payments to be excessive. From independent enquiry we find that they approximate fairly closely to charges for similar work elsewhere. The contractors are obliged to maintain a labour force greatly in excess of that maintained at other places of shipment, and this can only be done by special importation of labour. They have also to maintain labour sufficient to deal with a regular supply, although the supply is often intermittent owing to railway difficulties. We are of opinion that the expense of shipment would be enhanced by attempting departmental labour. Some present reduction will be obtained by agreement with contractors for a rebate, as suggested above, but such reduction should not take effect on the shipping rates, at any rate until the finances of the Docks are on a more satisfactory basis. The solution of a reduction of shipping charges on coal must lie in (1) obtaining a regular and sufficient supply so as to make economical handling possible, and (2) the provision of mechanical loading appliances. If mechanical appliances are introduced, a revision should be made.

142. The same contractors, who supply labour for handling coal, also provide that for handling general cargo. Some of the witnesses examined have questioned the advantages of this system, and have advocated the employment of departmental labour. This view we are unable to endorse. There is no local labour force which could be employed or not according to the daily demand. The Commissioners would have to maintain an establishment often in excess of immediate requirements: they would be dealing with their establishment through numerous sardars who would be in reality petty contractors, instead of, as now, through one responsible agency.

Similar work on Railways is done by contract, and we see no impropriety in the system.

The growth of traffic since the terms of the original contract were fixed, has, we consider, made some reduction in the rates paid to the contractors possible; but that these were originally fixed at too high a figure, we are not in a position to say.

143. We find that out of shipping rates which on the main staples are 8 annas per ton, the cost of handling, that is the payments to contractors, averages as much as  $6\frac{2}{3}$  annas per ton. In comparison with the proportion of the shipping rate paid for handling elsewhere, this sum is excessive.

It is for the consideration of the Commissioners whether some reduction of rates could not be obtained by the employment of more than one firm as contractors. As already mentioned, the present contractors are making proposals to share their profits with the Trust by granting rebates on traffic handled over certain limits.

144. Apart from the rates paid to contractors, there are other means of reducing the cost of handling. There is some want of discretion on the part of the Dock authorities in such matters as requiring all jute bales to be stacked in the sheds, and in the rigid adherence to rules prohibiting the placing of cargo in the open or on the quay face. Where sheds, as at the Docks, offer a floor area at present largely in excess of the requirements of cargo, the stacking of jute to economise space is, as a rule, unnecessary, and the expenditure on the process is money wasted.

During many months of the year, cargo could be deposited without risk direct from the wagon on the quay face, ready to be slung on board, instead of being passed through the sheds. An economy of labour would result by following this course.

145. Other matters in connection with the Dock management that have been brought to our notice are:—

- (1) the delays occurring in permitting the entrance of boats; and
- (2) the practice of shutting out cargo.

The delays experienced by boats are no doubt very real. Figures are given in Mr. Nicoll's evidence. In answer to question No. 416, he estimated the loss caused by this delay at Rs. 27,000 a year. As long as boats are compelled, as at present, to use the main entrance from the river, delay can hardly be obviated, as ships must take precedence in entering. To avoid the delay, the Commissioners are now constructing an independent entrance for the use of boats only, and we are informed that this will increase the facility of entrance by about 50 per cent. The construction of this boat entrance has been in hand far longer than it should have been, and the Commissioners should take such steps as may be possible to complete it at an early date.

Complaints on the subject of shutting out cargo should, under the existing system, be directed against the ship, and not against the Dock authorities, in the majority of cases. The Dock Superintendent has no control over the ship's officers in the selection of what items of the cargo in the sheds shall be taken on board or in what order they shall be taken.

In one definite case that was presented to us, the Dock authorities were blamed for withholding permission to ship a large consignment of tea when this was actually in the sheds. The ship eventually had to leave with a large amount of vacant space, and incurred a considerable loss of freight. An examination of the case showed that the teas were received so late in the sheds that the time available for sorting was insufficient, and that orders, which are based on the distinct instructions of shippers, prohibit the shipment of incomplete breaks of tea. In this particular case we consider that the Dock officers erred on the side of overcaution, though we recognise that they would have been heavily blamed if it had been subsequently discovered that the consignments were incomplete.

146. Improvement of facilities and enhancement of charges have been discussed above. Reduction of expenditure has still to be considered. Such reduction, we are of opinion, may be obtained in the cost of establishment without reducing its efficiency. The Sub-Committee has enquired closely into the duties on which each member of the establishment is employed, and have presented a supplementary report (Appendix D, page 281) dealing with the matter. As regards the Docks, the changes which they advocate are considerable. We have discussed these proposals in detail, and accept them. We find that for the traffic now handled the staff is excessive. The principal changes that we consider necessary are the abolition of the posts of one out of two Deputy Superintendents, and eight out of the fourteen Assistant Superintendents. We find that the number of Assistant Superintendents was increased to its present high figure of 14 as the result of the block in the wheat and seeds trade that occurred in 1898. The increase was made, at the instance of the trade, with a view to obviate any recurrence of the confusion that had then been evident. It is, however, altogether out of proportion to the work to be done. We consider that the retention of more than six Assistant Superintendents cannot be justified. The remaining items dealt with by the Sub-Committee are minor matters, but should all of them receive the careful attention of the Commissioners. In their last suggestion, they recommend the reorganisation, with a saving in cost, of the staff of Mechanical Engineers. This point we feel ourselves not competent to express definite opinions on, and would suggest that the subject be referred to an expert in such matters. Definite proposals on this head will be found in our recommendation in paragraph 153 regarding the workshops.



## WORKSHOPS AND STORES.

147. The Workshops of the Trust are situated on the Howrah side of the river, a short distance above the floating bridge. They are managed by a Superintendent who is also in charge of the whole of the machinery of the Trust including railway stock. We observe that in the published accounts of the Trust there is no direct reference to the expenditure in the Workshops. The whole is allocated in the sub-heads of each department, such as repairs and maintenance. This expenditure exceeds five lakhs of rupees annually, and without examining in detail the labour bills and stock accounts, it is impossible to frame any definite conclusions as to the efficiency of the management.

148. The Sub-Committee, in their examination of the shops, arrived at the general conclusion that there was a want of economical management. We accordingly asked Mr. C. A. Walsh, Inspector of Factories, to accompany the Sub-Committee over the Workshops and to favour us with an opinion on the subject. His views are given in his letter of the 4th February 1901, which will be found in Appendix G, page 365. The inspection was necessarily hurried, as Mr. Walsh had to leave Calcutta, and his report only deals superficially with the subject.

149. The employment of daily labour to the extent to which this is done in these shops is unusual. There is little doubt that more economical results will be obtained if a greater proportion of the work is done by contract or piece-work. In addition to the better outturn of work that is obtainable under a contract system, its effect should be seen in a reduction of the supervising establishment. This establishment, consisting of a Superintendent and eight foremen, is at present a large one in comparison with the size of the shops.

150. Neither the system of accounts nor the control over expenditure appear to us to be satisfactory. The system of accounts is discussed in paragraph 118 of the Sub-Committee's report (Appendix D, page 270), and we recommend that it be greatly simplified as there suggested. The actual compilation of the accounts would be more suitably dealt with by the accounts branch in the head office, where the figures would be available to the officers of the Trust, than as now by a separate staff in Howrah. The Workshop accounts staff should be confined to time-keeping and the allocation of charges.

151. To introduce effective control over expenditure preliminary sanction to estimates is essential. Under the system at present existing there appears to be a tendency to treat a lump sum budget allotment for repair work as authority for detailed expenditure. The steadily increasing outlay on repairs is a matter we have noticed in several Departments. Under the existing procedure in the Workshops, it does not appear that any opportunity is given for a consideration of the cost of repair before work is started. The nominal control of expenditure is in the hands of the Deputy Conservator, but the actual preparation and submission of estimates is the duty of the Workshop Superintendent, who submits them to the Vice-Chairman. It is at least possible that, if the cost of repairs were as a rule estimated before work was started, cases would occur in which a vessel or machine would be condemned in place of being repaired. We consider that in all repair work likely to exceed a limit which should be fixed by the Commissioners, the survey, report, and estimate should be prepared and approved before work is started. We understand that, under the present system, repairs to vessels are put in hand as soon as the Deputy Conservator's survey is made. We recognise that urgent cases may occur, but we believe that in the majority of cases of repair work the urgency is not great enough to override the necessity of considering the cost before starting the work.

152. The staff of the Dock engine-houses and of the 30-ton crane is subordinate to the Workshop management. The Sub-Committee have pointed out in their supplementary report (Appendix D, page 284) that in their opinion there is a possibility of making reductions in both of these.



153. The economy of the Workshops, including this last subject, is a matter of primary importance, and we advise that expert advice be obtained. The names of Mr. Jameson, Locomotive Superintendent, Eastern Bengal State Railway, and of Mr. Orr, Superintendent, Gouripore Mills, have been suggested in this connection. We recommend that these or other qualified gentlemen be asked to examine into the methods and efficiency of the Workshops and into the possibility of reducing the existing staff of Mechanical Engineers employed under the Commissioners, both ashore and afloat, and to submit a separate report to Government.

154. The Stores Department has been very carefully examined by the Sub-Committee. Here also they find that the system of accounts is more cumbrous than it need be. They have made definite proposals in paragraph 116 of their report (Appendix D, page 269) for the simplification and improvement of present methods. These we recommend to the attention of the Commissioners. In the matter of purchase of stores we are of opinion that the practice of advertising for tenders for annual supply is one to be adopted in the future. This Department is also under the management of the Deputy Conservator.

155. We think it advisable that a change should be made in the supervision of both the Workshops and Stores Department. We recommend that both Departments be placed in charge of the Engineering branch.

#### HOSPITAL PORT DUES.

156. The Commissioners have no control over either the imposition of Hospital Port Dues, or the administration of them. The dues are levied and disbursed by Government, and form an Excluded Local Fund, which is not merged in the Government balances. As, however, the subject is one bearing on the general economy of the Port, and as we believe the dues to be a charge on shipping that admits of reduction, we consider it within the scope of our enquiry to deal with them.

157. Hospital port dues are levied under sections 49 and 50 of the Indian Ports Act, X of 1889. Their incidence is limited to a maximum of one anna per ton on all vessels entering the Port: and the law directs that the proceeds shall be applied to the support of any hospital or dispensary suitable for the reception and relief of seamen requiring medical aid, and to the provision of sanitary superintendence and medical aid for the shipping in the Port, and for the seamen belonging to the vessels therein.

The rate at which they are at present levied is 9 pies a ton, or three-fourths of the maximum rate. For some time back the receipts have exceeded the expenditure, and the Fund has possessed a steadily increasing balance, which stood at the end of 1899-1900 at Rs. 1,14,667. The receipts and expenditure during 1899-1900 were as follows:—

	Rs.	Rs.
Receipts	.....	89,192
Expenditure—		
Hospital charges	42,123	
Port Health Officer and his establishment	29,164	
Treasury charges	456	
	71,743	
Surplus	.....	17,449

158. No corresponding dues are levied in Bombay, Madras or Karachi. In Bombay the Port Trust pays for the treatment of seamen in hospital, and contributes half the cost of the Port Health Officer's establishment. In Madras the Trust pays for an Assistant Surgeon at the Marine Dispensary. In Karachi the Commissioners meet half the salary of the Port Health

Officer, and one-third the cost of a quarantine hospital, and contribute for the treatment of seamen in hospital. The charge imposed upon the shipping in Calcutta is twice as great as it is in Bombay.

159. The duties of the Port Health Officer are preventive only; he has no concern with the treatment of patients. Such duties concern the Province quite as much as they do the Port, and it appears to us equitable that the cost of his establishment should be divided between the Port and the Province as a whole, as is now done in Bombay and Karachi. We recommend that half the charge on this head, a sum of from Rs. 14,000 to Rs. 15,000 a year, should be borne by the Provincial Revenues.

160. The expenditure against the fund would then stand at about Rs. 57,000 a year. Whether this relief to the fund is given or not, the present rate at which the dues are imposed is evidently in excess of requirements. We recommend that the rate be reduced to such a figure as will yield a revenue just sufficient to cover the expenditure. If our proposal to transfer half the cost of the Port Health Officer to Provincial Revenues is accepted, the rate would be 6 pies a ton; otherwise 7 pies would be necessary. The relief to the shipping would be from Rs. 20,000 to Rs. 30,000 a year.

161. The existing surplus should, we consider, be appropriated at once, and not allowed to accumulate further. The purposes to which it may be devoted are laid down in section 50 (1) of the Indian Ports Act, X of 1889. Amongst these is the support of hospitals suitable for the reception of seamen. We are of opinion that the best use that can be made of the balance available is to make special provision, in the new General Hospital now in course of erection, for the accommodation of seamen and officers of ships using the Port.

#### MISCELLANEOUS.

162. In the preceding sections we have discussed the general administration of the Trust in each of its Departments and made such proposals for improvement as appear to us necessary. Certain further suggestions which have arisen during our enquiry may conveniently be dealt with here. First in importance among these is the proposal contained in a letter from Sir James Mackay addressed to a member of the Committee which will be found in Appendix E, page 332. This proposal, in brief, is that the Port Commissioners should entirely abandon the work of handling cargo, both import and export, and confine themselves to providing suitable accommodation for vessels and goods, leaving the landing and shipping of cargo to be done by the representatives of the vessel. Such an arrangement involves the leasing of berths to Liners, and hiring them out at a daily rental to casual vessels. There are nine regular lines of steamers trading to Calcutta, and as there are only six berths at the Jetties, it would be difficult to adopt the system there. In the Docks where twelve berths for general cargo are available, it would be practicable.

We apprehend, however, that the plan proposed would involve the risk of placing importers and exporters too much at the mercy of shipowners, and of subordinating the interests of the former to those of the latter. The object of the change is to get rid of irritating delays, of possible obstruction to business, and of unnecessary formalities by eliminating the intermediate agency between vessels and the trade. There is no doubt that the adoption of the proposal would relieve the Port Commissioners of a large amount of responsibility, but it is open to question whether such relief would not be obtained at the expense of trade. The Port Trust is representative of trade and works for the general interests of trade; a steamship company works for its own individual interests. And even if controlling powers were reserved to the Port Commissioners, it is conceivable that facilities might be refused or charges enhanced by an agency whose primary object is the earning of dividends, more readily than by the Trust.

The arguments against the proposal are fully stated in a note by Mr. Dumayne which will be found in Appendix E, page 329. We do not recommend

the adoption of the proposal. The general situation and methods of trade in Calcutta do not, in our opinion, demand such an entire change of system, at any rate for the present.

163. There is a minor financial adjustment between the Trust and Government in which we consider that the Trust may reasonably look to Government for easier terms than those at present in force.

Fees for collection of Government dues.

The Port Commissioners collect on Government account the fees for pilotage, the hospital port dues, and certain other petty sums. These aggregate a present eleven lakhs of rupees. For this service the Commissioners receive a sum of Rs. 2,800 per annum, or 0.25 per cent. We consider that this remuneration is insufficient for the services rendered. The cost of collecting the Port Commissioners' own revenue has been ascertained to be almost exactly 1 per cent. on the receipts, and we recommend that the same percentage should be paid by Government on the revenue which the Trustees collect for it.

164. By the Calcutta Port Act, section 68, it is contemplated that the public thoroughfares through the Commissioners' premises and the roads of any Dock wharf or jetty shall be lighted, cleaned and watered by the Corporation of Calcutta. Very little advantage has been taken of this provision as regards lighting. As far as we have been able to ascertain, the only payment made by the Corporation under this head is Rs. 285 a month for lighting one of the main roads through the Docks. They also maintain fifteen lamps on the main road at the Jetties. Wharves and minor roads are lighted by the Commissioners. The expenditure shown in last year's accounts for lighting amounts to Rs. 56,455 for the Docks and Rs. 9,532 for the Jetties. We recommend that application be made to the Corporation with a view to obtaining a contribution towards such part of this expenditure as can be shown to be covered by the provisions of section 68 of the Calcutta Port Act.

Municipal Services.

165. We consider that it would simplify the work of all who have dealings with the Trust if the whole of the rates and fees chargeable for the various services rendered were to be collected together and published in one single schedule. These are now presented in a number of independent schedules and leaflets. Some simple system of classification should be adopted, and rates per package should be substituted for measurement rates wherever possible.

Schedule of Rates and Charges.

#### NO USEFUL COMPARISON CAN BE MADE BETWEEN CALCUTTA AND BOMBAY.

166. We have considered whether any useful conclusions can be drawn from a comparison of the arrangements in force in Bombay. But we find that the conditions of the two ports are so different that the operations of the respective Port Trusts are not comparable except as to some of the details. Bombay possesses a fine natural harbour, with broad anchorages and channels, and having direct access from the sea. The Port of Calcutta is only a reach of the river, 120 miles from the sea, from which it is separated by a long stretch of intricate navigation complicated by strong currents, dangerous shoals, and shifting channels. These involve the maintenance of a strong staff of surveyors to vigilantly watch the navigable channels of the river, and of skilled Harbour Masters to manipulate vessels within the Port. The cost of this indispensable work forms a heavy, but unavoidable, charge on the shipping resorting to Calcutta, to which there is no real counterpart in Bombay. We do not refer here to the cost of pilotage, though its heavy incidence is manifest, as it lies outside the scope of our enquiry. This consideration lends additional justification to the action of the Port Commissioners in relieving the shipping, for as long as they were able, from the burden of Port dues.

Different conditions of the two Ports.

Port Approaches and Harbour.

167. Another material point of difference lies in the fact that the Bombay Trustees own valuable land estates, acquired by reclamation from the sea in connection with harbour

Large reclamations in Bombay.



improvements, on which the principal warehouses and markets are situated, and that they own practically the whole foreshore with the wharfage rights.

Free foreshores in Calcutta.

In Calcutta reclamations, except on a trifling scale, are impracticable, and the existence of a number of private wharves interferes with the freedom of the Trust. In Bombay large provision has been made in the way of warehouses and sheds near the Docks for the storage of commodities of all kinds, and a substantial revenue is derived from the extensive use of the Trust land for the storage of grain, timber, coal, etc. In Calcutta, the Trust has provided warehouse accommodation for tea, for petroleum, to some extent for piece-goods, besides storage accommodation for coal at Shalimar, and is now making provision for wheat and seeds. But with these exceptions, the warehousing business of Calcutta is in private hands; and though we do not recommend any attempt to secure this for the Trust, it is evident that the profits to be derived from it are not available as an asset of revenue, as they are in Bombay. The receipts from rent of land, sheds, and warehouses in 1899-1900 were Rs. 13,81,319 in Bombay, against only Rs. 4,91,260 in Calcutta.

The existence of private foreshore rights also, and the facilities which vessels have for loading and unloading in the river, affect prejudicially the earnings of the Calcutta Trust. It derives no revenue, other than the special toll, from the large general traffic which passes over the private wharves, or from what is landed or shipped in the stream. In Bombay, a charge of two pies per ton per diem is made on lighters entering the Docks. In Calcutta, a similar charge is equally equitable, but could not in practice be imposed without the risk of diverting traffic from the Docks.

These considerations fortify our conclusion that a River due or some similar charge on goods is both necessary and equitable, in order to ensure that all sections of trade using the Port should contribute towards its maintenance.

#### CONSTITUTION AND PERSONNEL.

168. The constitution of the Trust has been briefly described in paragraph

Constitution of the Trust.

7 of our Report. The thirteen elected or appointed Commissioners hold office for two years, but may be re-elected or re-appointed at the expiration of that term. The Vice-Chairman is the chief executive officer of the Board and is responsible to the Commissioners for the efficiency of the management of the Trust. The executive officers of the Trust subordinate to the Vice-Chairman, who at present holds also the office of Chief Engineer,

Executive arrangements.

are the Traffic Manager and the Deputy Conservator. Under the Traffic Manager are the Departments concerned with the management of the Jetties, the Docks, the Inland Vessels Wharves, and the Railway. The Deputy Conservator controls the staff of the Port Approaches, the Harbour Master's Department and the Workshops.

169. The Commissioners form a consultative body with little or no direct

Commissioners' fees.

responsibility. We have considered whether a larger share in the general management should not devolve upon them. The question is a difficult one. Individual Commissioners have their own business concerns to occupy them, and the time that they can make available for the work of the Trust is limited. The remuneration that they now receive in return for their services, viz., Rs. 20 for each meeting of the Board and Rs. 10 for each committee meeting, is trifling. We consider it desirable that a sense of responsibility for the details of management should be encouraged amongst the members of the Board, and we agree that one way to arrive at this result is to make more substantial payment for the time devoted to the affairs of the Trust.

170. The combination in the hands of one officer of the two posts of

Posts of Vice-Chairman and Chief Engineer;

Vice-Chairman and Chief Engineer has formed the subject of much adverse criticism, and is one of the points specially referred to us. We have examined many witnesses on this point, amongst them the present occupant of the two posts, Mr. J. H. Apjohn. The opinions we have received are unanimous in favour of dissociating the duties of the two offices in the future.

Among the arguments used in support of this opinion are those of Mr. Ross who held that it was an obviously unsound principle to lose outside control over a large spending Department by placing the controlling officer at its head; of Mr. A. A. Apcar who wrote that the work connected with these offices has reached an extent that no single individual can efficiently conduct it; and of other witnesses who urged that special mercantile or shipping experience was essential to any officer holding the Vice-Chairman's post.

Mr. Apjohn's personal experience has led him to the conclusion that the strain of the work of both posts is too much for one man to bear. There exists therefore no difference of opinion on the main question, and we accept the general decision that the two posts should be separated.

171. There remains the important question of the qualifications to be looked for in making selection of an officer to fill the post of Vice-Chairman after Mr. Apjohn's retirement. Qualifications required for post of Vice-Chairman. Commercial experience, knowledge of shipping business, experience in traffic management have each in turn been put before us as essential. We have received some information as to the practice in other large Ports. In Bombay, the Chairman who is the chief executive officer, is an Engineer, ordinarily selected from the Public Works Department. In Manchester, the Chairman of the Ship Canal was a merchant. In Glasgow, the newly created office of General Manager has been filled by a gentleman who is by training a solicitor, and who had for some years been Secretary of the Board. In Newcastle, the corresponding post is filled by a railway man; and in Liverpool by one with Port Trust experience only.

We lay no special stress on one form of previous training more than another. We believe that what is chiefly required is the qualification that can only be expressed in the general term good business capacity. Indian experience, we hold, is a necessity; and some experience of traffic management, whether on a Dock, a Railway or a large shipping business, may be of advantage, though not essential. But beyond what we have said above, we do not consider that the details of previous training are matters having much bearing on the subject.

172. A minor suggestion which we desire to make is that the title of the post now held by the Vice Chairman should, when an opportunity occurs, be changed to General Manager. Should be styled General Manager. This more correctly denotes his duties; and a further advantage is that if the change is made, the chief executive officer will cease to have a vote or to be a member of the Board of Trustees.

173. If the posts of Vice-Chairman and Chief Engineer are dissociated as we propose, it will be necessary to appoint a separate officer to the latter. The office will be an important and responsible one, and will require to be filled by a man who can be thoroughly relied on to maintain the large and costly works of the Trust in perfect order, and to meet the demands for improvement which are constantly arising. It will be true economy to attach a liberal salary to the appointment so as to secure the services of a thoroughly competent man.

174. It has been suggested to us that the meetings of the Trustees should be open to the public. We are aware that this proposal has been considered by the Trustees on former occasions and rejected. But we nevertheless recommend that it may be adopted. By far the greatest part of the business of the Board is such as may without injury to any interests be conducted in public, and the advantages of publicity in securing general confidence are manifest. It would of course be open to them to hold any particular meeting *in camera* for special reasons. Meetings of Trustees should be open to the public.

175. The control of the Accounts Branch is a matter that needs special attention. We recommend that in any future appointment to the post of Secretary to the Trust, an officer with the qualifications of an Accountant should be selected. The Secretary should be the Chief Accountant, and it should be part of his duties to lay before the Commissioners full information on all matters of accounts or finance. In Control of Accounts.

particular, it should be his duty to challenge all expenditure not covered by a specific budget grant or competent sanction, to report all probable excesses or savings on estimates, and, where necessary, to suggest specific reappropriations from one budget head to another.

176. The general question of the establishments employed under the Commissioners has been touched on in its relation to each department.

Establishments.

The Sub-Committee has examined in detail the work performed by the staff of each department, and have presented a report (Appendix D, page 243), which sums up their conclusions. We have considered this report carefully, and, with few exceptions, adopt the proposals they have made. Speaking generally, we find that there is room for economy in establishment. Under the head "Control" our previous recommendation, that the Secretary should in future be Chief Accountant, will make it unnecessary to fill the post of Deputy Accountant at present sanctioned, but vacant. We also agree that a Deputy Traffic Superintendent is not required. These two reductions will relieve the establishment charges of Rs. 14,400 a year, but the saving will be more than absorbed by the cost of a separate Chief Engineer.

We have dealt with the supervising staff at the Jetties in paragraph 49 above. As regards the subordinate staff, the salaries paid to both shed officers and tallymen seem to us higher than are necessary to obtain suitable men, and should be revised as vacancies occur. The shed officers at the Docks, on the other hand, are scarcely paid enough, and their salaries should be improved; the cost being met by a reduction in the number of tallymen which is excessive.

Payments for overtime are at present excessive; night and overtime work should be discouraged, and this should be easy if the improvements which we recommend at the Jetties are carried out.

At the Tea warehouse a reduction of Rs. 5,160 can be made on the establishment estimated at Rs. 25,824, as pointed out by the Sub-Committee in paragraph 29 of their report.

The major reductions that we recommend as possible at the Docks we have already dealt with in paragraph 146 above. The supervising staff is undoubtedly considerably in excess of the present requirements of the Dock traffic. We recommend the adoption of each of the reductions noted by the Sub-Committee. These give a total immediate saving of Rs. 38,172, or slightly over 10 per cent. on the total establishment employed at the Docks. The reasons for the excessive establishment being maintained are to be traced to the scare following the block of traffic in 1893. Pressure was at that time put on the Commissioners to increase establishments, so as to obviate any recurrence of the block. The staff was then comparatively new to the work to be done, and the additions were probably necessary to restore confidence in the Docks. Since that date the staff has been strengthened by the addition of a Dock Superintendent with experience of Railway traffic working, and the subordinate establishment has become familiar with the working of the traffic. We think that the reductions we have proposed may be effected with no fear of impairing efficiency.

The total saving involved in our recommendations for reduction of establishment amounts to Rs. 60,732 per annum, not including any reduction that may be found possible in the Jetty establishments or in the staff of the 30-ton crane. It should be noted, however, that some of the posts whose abolition we recommend are actually vacant, and the saving in respect of them is merely as compared with the budget sanction, and not in actual expenditure. The propriety of abolishing appointments which are unnecessary and are not actually filled is manifest.

#### COMPLAINTS.

177. In dealing with the question of the possibility of improvement in the administration of the Trust, we have had to consider specific complaints that have been put before us by witnesses as evidence of inefficiency or want of foresight in the management of the Port.



178. Prominent among these is the block in the wheat and seed traffic in 1898. This matter was examined and reported on by a Special Committee of the Trust shortly after its occurrence. The finding of that Committee was that "the block could not have been prevented by any possible system of traffic management, but it might have been mitigated if a larger and more thoroughly trained staff than that entertained at the Docks had been available." That the finding of this Committee has not met with the support of the trade is evident from Mr. Ross' evidence. He writes as follows (Appendix A, page 61):—

"The finding of that Sub-Committee I am prepared to contest. In my opinion the first duty of a Traffic Manager is to know the capacity of his accommodation, the extent of the traffic he has to take over, the nature of that traffic, and the facilities at his disposal for handling it. Had the Traffic management of the Port Trust known or made themselves aware of any of these things, they would never have consented to take over the whole of the Howrah traffic which, in the opinion of any one who knew anything about its volume, was sure, if diverted *en bloc* to this side, to result in the chaos which actually ensued. It was quite open for the Port Trust, on finding that Howrah was closed for booking, to offer to take over such portion of the traffic as they could conveniently deal with, limiting receipts from the East Indian Railway to so many wagons per day and refusing to accept more. The East Indian Railway is in the habit of doing this in its traffic with other railways. In such a case it would have been left for the East Indian Railway to allow limited bookings only to Kidderpore. What was called for at the time was relief, but what we actually got was confusion. In trying to do too much the Port Trust Traffic management succeeded in utterly blocking everything."

We have also examined Mr. Apjohn on this matter, and his evidence will be found in Appendix B, page 108 (questions Nos. 109-111). Our conclusion is that the block was due to the Trustees attempting to meet the convenience of the trade without properly estimating their capacity to do so. If the Committee of 1898 implied, as we assume they did, that once the traffic had been accepted, no system of traffic management at the Docks could have prevented the block, we agree with their conclusion; but going behind this we consider that a serious error of judgment occurred on the part of the management in accepting a heavy traffic for which they were not prepared and of whose magnitude they evidently had no idea.

179. We have already referred, in paragraph 133 above, to the delay that has occurred in completing the arrangements for the wheat and seed trade which were sanctioned in 1898. The sheds are finished: but the bridge across the boat canal is far from ready, and no additional wagons have been provided. No adequate explanation of this unfortunate delay is forthcoming, and we regard it as one of the least satisfactory incidents in the management of the Trust that has come before us.

180. Another matter on which numerous complaints have been made is the insufficient provision for admitting cargo boats into the Docks. This we have referred to in paragraph 145 above. The delay in providing the separate entrance for boats which was sanctioned in May 1899, has been excessive, and indicates some want of energy on the part of the officers of the Trust.

181. In connection with the entrance of boats into the Docks we desire to draw attention to the serious inconvenience that is caused to the public by the necessity for the frequent openings of the swing bridge between the Tidal basin and the Dock.

182. We have also touched already on a third matter which has been made a subject of complaint, viz., the insufficient supply of railway wagons and the unbusiness-like arrangements for supplying them. We recognize the difficulties under which the Railway Administration labours; but we have already in paragraph 90 recorded our opinion that the complaints are well founded, and have indicated the measures that should be adopted to remove them.

183. Other charges that have been brought against the Trust have less foundation. For instance, the Trustees have been blamed for the purchase of salt barges in excess of the number subsequently proved to be required by the trade. It appears that in

1896 a Committee approved of accommodation being provided at the Docks for salt. It had originally been proposed to construct twelve golas and provide fifteen 100-ton lighters for this traffic. The Committee reduced this to three golas and sixteen 66-ton lighters. Experience has proved that these 16 lighters which cost Rs. 1,93,399 were more than was requisite, and 10 of them have recently been sold; the price realised was only Rs. 5,000, showing a loss on their first cost of Rs. 7,087 on each lighter. It is obvious that the Commissioners took an exaggerated view of the requirements of the salt trade. Perhaps also sufficient care was not taken to adjust the tonnage of the lighters in one or other of the estimates. It must, on the other hand, be remembered that the Commissioners were at the time most anxious to give every possible facility to encourage trade to move to the Docks, and that they were guided by members of the Trust who had personal experience of this branch of trade. Although subsequent events have proved their estimates to be oversanguine, resulting in considerable loss, we hesitate to attribute serious blame to them on this account.

184. The labour contracts of the Commissioners have been challenged in evidence as extravagant. These we have discussed in our consideration of the charges at the Docks, and it seems unnecessary to deal further with the subject, beyond adding that with the growth of traffic some reduction in the existing contract rates is possible.

185. The Dock establishment has been pointed to as showing want of economy on the part of the Commissioners. This establishment, as we have shown, is in our opinion at present excessive. The Commissioners increased it on the recommendation of their special Committee which dealt with the block of 1898. Trade demanded improvements in the working of the Docks, and the only immediate way of reaching this result was an increase of staff. That all parties are not unanimous even now in calling for a reduction is shown from the view of the Liners' Conference. Mr. Cassels in his written statement says that the Conference is not in favour of a reduction of establishment at the Docks. We hold it, however, to be clear that reduction is now to be recommended, but we recognise that the reasons that led to the increase were of weight at a time when the smaller staff was wanting in the experience of the Dock working which they have since had opportunity of gaining.

186. As an instance of want of foresight, the financial forecast prepared by the Vice-Chairman in 1890 has been quoted. This forecast was prepared before the Docks were opened, and has been falsified by events. No accurate data existed at that time on which reliable anticipations could be based. The opposition with which the development of the Docks had subsequently to contend was not fully realised, and in these circumstances we do not hold that any great stress need be laid on the fact that this forecast differs widely from working results.

187. Increasing expenditure in the Harbour Master's and other Departments is mentioned as evidence of extravagant management. We have discussed these points when dealing with the working of the Departments, and do not consider that any general charge of extravagance can be maintained. We are, however, of opinion that the expenditure on Repairs is excessive, and is not subject to sufficiently close supervision.

#### SUMMARY OF RECOMMENDATIONS.

188. The following is a summary of the recommendations made in our Report.

##### I.—Matters of General Finance—

- (1) For financial purposes the operations of the Trust should be treated as a whole; and it is not necessary that each Department should be financially independent and self-supporting. (See paragraph 18.)
- (2) The balance of the consolidated Government loan should be paid off by the issue of debentures of a corresponding amount. (See paragraph 28.)

- (3) The Commissioners should address Government with a view to obtaining an extension of the period for repayment of the Dock loan. (See paragraph 29.)
- (4) Section 24 (1) of the Calcutta Port Act should be amended so that it may not be compulsory to liquidate future debenture loans within thirty years. (See paragraph 30.)
- (5) Arrangements should be made to obtain interest on current Bank balances. (See paragraph 31.)
- (6) Authority should be obtained to invest surplus funds when not required for immediate expenditure. (See paragraph 32.)
- (7) The Special Toll now annually imposed should be converted into a permanent source of revenue under the name of River Dues. Coal should no longer be exempt from payment under this head. (See paragraphs 35 and 38.)

## II.—Accounts—

- (1) A revised system of accounts should be adopted. (See paragraph 20.)
- (2) A complete system of test audit should be introduced. (See paragraph 22.)
- (3) The numerous insurance and depreciation funds should be amalgamated into one general fund. (See paragraph 21.)

## III.—The Jetties, Tea Warehouse and Petroleum Wharf—

- (1) The storage accommodation should be largely increased by the erection of sheds of two or three storeys in place of the existing single-storeyed ones. (See paragraph 46.)
- (2) The railway lines passing through the Jetty compound should be rearranged so as to give two clear lines for through traffic: they should be equipped with hydraulic capstans and turn-tables to facilitate the movement of wagons. (See paragraph 47.)
- (3) When increased shed accommodation is provided, cranes of a more modern type than those in use should be provided. (See paragraph 49.)
- (4) Two additional jetties should be provided for the use of the coasting trade. (See paragraph 51.)
- (5) The charges for services to ships at the jetties should be recast—(a) Mooring hire should be discontinued, (b) the jetty hire should be on a tonnage scale, and (c) the hire of cranes should be separately charged for. (See paragraph 50.)
- (6) The rates on goods should be revised and assimilated to the Bombay rates, and fixed rates should be substituted for measurement rates wherever possible. (See paragraph 54.)
- (7) Departmental labour should be employed for night-work as well as day-work. (See paragraph 53.)
- (8) Arrangements should be made with the Custom House authorities to extend the hours of working. (See paragraph 54.)
- (9) The Jetty Superintendent should have his office at the jetties and devote his attention exclusively to jetty work. (See paragraph 52.)
- (10) The accounts should be kept in such detail that comparison of the cost of departmental and contract labour will be possible. (See paragraph 53.)
- (11) The rates for the use of the 30-ton crane should be reduced as soon as the financial position admits of this being done. (See paragraph 54.)
- (12) Teas for direct shipment should not be stored in the Tea Warehouse. (See paragraph 57.)
- (13) The Tea Warehouse doors should be fitted with wire-netting to prevent thefts. (See paragraph 58.)



- (14) The supervising staff in the Tea Warehouse should be reduced. (See paragraph 60.)

#### IV.—Inland Vessels' Wharves—

- (1) Shed accommodation for cargo should be provided. (See paragraph 63.)
- (2) An improved system of check on collections should be introduced. (See paragraph 65.)

#### V.—Strand Bank lands—

- (1) A survey and reassessment should be taken in hand. (See paragraph 69.)
- (2) Rents and charges on the Howrah lands should be enhanced. (See paragraph 70.)
- (3) The check in the head office on outstandings should be improved. (See paragraph 71.)

#### VI.—Harbour Master's Department—

- (1) The scale of mooring hire should be revised. (See paragraph 76.)
- (2) Mooring hire paid by vessels in the Docks, should be credited to the latter Department. (See paragraph 74.)
- (3) The Commissioners should address Government regarding the payment of a larger proportion of the police charges from Provincial Revenues. (See paragraph 82.)

#### VII.—Railway—

- (1) The Port Trust Railway, including the Dock Junction and Shalimar branch, should continue under the management of the Trust. (See paragraphs 92, 94 and 99.)
- (2) The charges for terminal services at Shalimar should be raised. (See paragraph 93.)
- (3) The lines should be improved to fit them for the volume of traffic that should pass over them. (See paragraph 86.)
- (4) The accounts of all railway expenditure should be treated separately. (See paragraph 90.)
- (5) All arrangements for working should be placed under one Superintendent, with a view to the best use of the stock, the prompt supply of wagons in order of application, and economy in working expenses. (See paragraph 90.)
- (6) Endeavour should be made to secure all the jute fabric shipments made by mills, and to use the Eastern Bengal State Railway as an alternative route when there is congestion. (See paragraphs 87-88.)

#### VIII.—Port Approaches—

- (1) Port dues should not be increased. (See paragraph 104.)
- (2) The incidence of Port dues on the coasting trade and on inland vessels' traffic should remain as at present fixed. (See paragraphs 102-103.)

#### IX.—Docks—

- (1) No large Capital expenditure should be incurred at present, as the capacity is sufficient for all probable requirements and capable of gradual extension. (See paragraph 116.)
- (2) There is no present need for an additional Dock for coal either at Kidderpore or elsewhere. (See paragraph 131.)
- (3) A reduction of the cost of shipping should be obtained by—
  - (a) The introduction of mechanical loading of coal. (See paragraph 132.)

- (b) Arrangements with contractors for a share of profits by means of rebates. (See paragraph 132.)
  - (c) Not insisting on the stacking of cargo when ample shed space is available. (See paragraph 144.)
  - (d) Shipping direct from quay face when practicable. (See paragraph 144.)
  - (e) The use of cranes and tip buckets for loading coal at the berth in the tidal basin. (See paragraph 132.)
- (4) The Eastern Bengal State Railway should be urged to grant more favourable terms for carriage of goods from the mills to the Docks, and to provide additional railway facilities. (See paragraph 137.)
  - (5) Shipping rates on gunnies and jute should be enhanced. (See paragraph 139.)
  - (6) The shipping of bunker coal from the Dock quays should be encouraged. (See paragraph 132.)
  - (7) The supervising staff should be largely reduced. (See paragraph 146.)

#### X.—Workshops and Stores—

- (1) The system of contract or piece-work should be substituted for daily labour wherever possible. (See paragraph 149.)
- (2) The accounts work of the shops should be simplified and transferred to the head office. (See paragraph 150.)
- (3) Except in cases of real urgency repair work should not be put in hand before an estimate is sanctioned. (See paragraph 151.)
- (4) Expert opinion should be obtained on the working of the shops and the necessity for the present staff employed on the machinery of the Trust. (See paragraph 153.)
- (5) The stores account should be simplified as suggested. (See paragraph 154.)
- (6) Tenders for the annual supply of stores should be invited. (See paragraph 154.)
- (7) The control of both Workshops and Stores should be placed in the hands of the Engineering Department. (See paragraph 155.)

#### XI.—Miscellaneous—

- (1) A larger contribution should be obtained from the Municipality for lighting and watering the Commissioners' premises. (See paragraph 164.)
- (2) Government should be asked to increase the payment for the collection of fees and dues. (See paragraph 163.)
- (3) All rates and charges should be collected and published in a single schedule. (See paragraph 165.)
- (4) Hospital Port dues should be reduced. (See paragraph 160.)

#### XII.—Constitution and Personnel—

- (1) A more substantial payment should be made for the attendance of Commissioners at Port Trust meetings. (See paragraph 169.)
- (2) The posts of Vice-Chairman and Chief Engineer should not in future be held by the same officer. (See paragraph 170.)
- (3) The title of the post held by the Vice-Chairman should be changed to that of General Manager. (See paragraph 172.)
- (4) A thoroughly competent Chief Engineer should be obtained. (See paragraph 173.)
- (5) Meetings of Commissioners should be open to the public. (See paragraph 174.)



- (6) In future appointments, the Secretary to the Board should be also Chief Accountant. (See paragraph 175.)
- (7) Reduction in establishment as detailed should be made. (See paragraph 176.)

189. A variety of minor recommendations have been made in the Sub-Committee's report, which we summarise as follows:—

#### I.—Jetties—

- (1) The export receiving shed might be removed to a site on the Strand Bank lands to the north of the jetty enclosure (paragraph 9, Sub-Committee's report).
- (2) The question of storing goods at a rent per bale or package should be considered (see paragraph 9, Sub-Committee's report).
- (3) Endeavour should be made to secure the traffic now going overside to Howrah (paragraph 16, Sub-Committee's report).
- (4) Endeavour should be made to secure landing contracts for all railway material (paragraph 17, Sub-Committee's report).
- (5) An improved system of test audit should be introduced (paragraph 24, Sub-Committee's report).
- (6) The labour employed in the tea warehouse should be departmental labour (paragraph 29, Sub-Committee's report).

#### II.—Harbour Master's Department—

- (1) Consideration should be given to the alternative method of fire-prevention suggested (paragraph 51, Sub-Committee's report).

#### III.—Railway—

- (1) The possibility of alteration in the present methods of dealing with the Eastern Bengal Railway traffic at Cossipore should be considered (paragraphs 61 and 62, Sub-Committee's report).
- (2) Cheaper stock such as would be suitable for Port Trust work might be obtained from stock discarded by main lines (see paragraph 68, Sub-Committee's report).

#### IV.—Docks—

- (1) Night-work should, as far as possible, be avoided (paragraph 83, Sub-Committee's report).
- (2) The allocation of berths in the Docks should be placed under the control of the Dock Superintendent (paragraph 78, Sub-Committee's report).
- (3) The Customs chalan should, if possible, be used for testing collection of Dock dues (paragraph 80, Sub-Committee's report).
- (4) Government should be asked to pay a part share in the cost of admitting vessels to their graving Dock (paragraph 99, Sub-Committee's report).
- (5) Hydraulic turn-tables and traversers should be provided for shifting railway stock without the aid of locomotives (paragraph 86, Sub-Committee's report).
- (6) Government should be addressed on the subject of the inadequate payment now made for services to troops (paragraph 102, Sub-Committee's report).

#### FINANCIAL RESULTS.

190. The financial results of our recommendations cannot be stated in a complete form, as the effect of many of our most important proposals cannot be



expressed in money. We have, however, suggested several means of improving the revenues on which a more or less definite value can be placed. These are—

1. Savings on present charges—	Rs.
(a) Repayment of the balance of the consolidated Government loan by the issue of a debenture loan (see paragraph 28)—	
Saving ... ..	1,69,140
(b) A readjustment of the shares of police charges between the Commissioners and Government (see paragraph 82) ... ..	20,000
(c) Reduction in the establishment charges (see paragraph 176) ... ..	60,732
Total Savings ... ..	2,49,872
2. Increase of rates and charges—	Rs.
(a) Revision of scale of mooring hire (see paragraph 76) ... ..	25,000
(b) Revision of rates for terminal services for railways (see paragraphs 93 and 96) ... ..	1,00,000
(c) Imposition of special toll at 1 anna per ton on coal (see paragraph 38) ... ..	1,00,000
Total Increase of Charges ... ..	2,25,000
3. Rents and Miscellaneous—	
(a) Reassessment of Strand bank lands (see paragraph 69), increase may be estimated at 25 per cent., say ... ..	42,500
(b) Interest on current bank balances (see paragraph 31) estimated at 2 per cent. on Rs. 7,00,000 ... ..	14,000
(c) Additional contribution from the Corporation for watering, lighting, etc (see paragraph 164), say ... ..	10,000
Total Rents and Miscellaneous ... ..	66,500
Total Net Improvement ... ..	5,41,372

In addition to the above, we have recommended economies in the present cost of repairs, working expenses and handling charges. These will result in increasing the above figure, but their exact effect cannot be accurately stated.

On the other hand, we have proposed additional expenditure on the improvement of facilities both at the Jetties and on the Railway and in the provision of mechanical appliances at the Docks. This expenditure will be spread over a series of years, and in each case, it is believed, will be at once remunerative by either adding to the traffic or reducing the cost of handling.

#### GENERAL CONCLUSIONS.

191. The Sub-Committee, in paragraphs 5 of their report, wrote as follows:—

“In the course of our enquiries we have found that almost every question bearing on the finances of the Trust and on the provision of further facilities for dealing with the business of the port and its future expansion have at one time or other received the consideration of the Commissioners, and there are detailed reports on the records showing how the various needs of the trade and shipping may be provided, and the Port Commissioners have not been unmindful of the duty which lies on them of improving facilities and of providing in advance for the expansion of traffic. These records have been of the greatest assistance to us in prosecuting our enquiries.”

In paragraph 135 they recorded the following opinion:—

“In concluding our remarks, we wish to record that although our enquiries have brought to light certain defects, these defects were not of so serious a character as to support any general belief that there is gross mismanagement, and that the various departments are administered with a disregard to public interests. On the contrary, we have everywhere found a disposition on the part of the executive staff to meet the wishes of the trade as far as was possible with the means at their disposal. It is undoubted, however, that the merchants have grounds of complaint for the absence of certain facilities, and that on some points, the organisation requires to be improved.”

We unanimously endorse these views. It was, perhaps, inevitable that, in recording the results of an enquiry such as that which was entrusted to us, prominence should be given to those points in which the administration of the Trust appears to us to be defective, and to the suggestions for improvement which we consider should be made. But we by no means wish to leave the impression that the management of the Trust, as a whole, calls for condemnation. It is probable that if a close investigation were to be made into the working of other large commercial or public undertakings in this country or elsewhere, there are very few which would emerge scatheless in every point of detail. That the Port Commissioners have sometimes made mistakes in the past they would themselves doubtless freely admit. They have sometimes failed to accurately forecast the course of trade. There has been some tendency to extravagance in respect of establishments, repairs and contingent charges. There has occasionally been delay in providing the full facilities required for particular branches of trade. They have not always employed their resources to the best possible advantage. To these defects we have adverted in the course of our report, adding such suggestions for improvement as recommend themselves to us.

But, neither individually nor collectively, are they of sufficient weight or importance to form the basis of any general charges of either inefficiency or disregard of economy. On the contrary, it is our unanimous opinion that, as a whole, the work of the Trust has been well done, and that, to use the words of our Sub-Committee, the Trustees "have not been unmindful of the duty which lies on them of improving facilities and of providing in advance for the expansion of traffic."

E. N. BAKER.  
G. H. SUTHERLAND.  
ALLAN ARTHUR.  
P. PLAYFAIR.  
F. G. DUMAYNE.  
A. MUIRHEAD.  
J. LIGHTFOOT.

*March 15th 1901.*

## WEATHER AND CROP REPORT.

For the week ending the 25th March 1901.

**Burdwan.**—No rain. Weather hot. Pressing of sugarcane continues. Harvesting of *rabi* crops has commenced in places. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	12	} per rupee.
Kalna	...	...	...	10 $\frac{4}{5}$	
Katwa	...	...	...	12 $\frac{1}{2}$	
Raniganj	...	...	...	12	

**Birbhum.**—No rain. Weather hot. Pressing of sugarcane and harvesting of *rabi* crops continue. Price of rice at Sadar and at Rampur Hat 12 $\frac{1}{2}$  seers per rupee. Fodder sufficient.

**Bankura.**—Rainfall at Bankura .12. Weather occasionally cloudy and getting hot. Pressing of sugarcane and harvesting of *rabi* continue. Fodder dear. Water sufficient. Price of common rice 12 $\frac{1}{2}$  seers per rupee at Bankura and Vishnupur.

**Midnapore.**—Rainfall at Sadar 0.25, Contai 0.13. *Rabi* being harvested, sugarcane pressed. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	13	} per rupee.
Contai	...	...	...	13	
Tamluk	...	...	...	11	
Ghatal	...	...	...	12 $\frac{1}{2}$	

**Hooghly.**—No rain. Pressing of sugarcane continues. Prospects of standing crops good. Common rice sells at 10 seers 14 chitaks per rupee. Fodder and water sufficient.

**Howrah.**—No rain. Weather hot. Fodder and water sufficient. Common rice sells at 10 seers per rupee.

**24-Parganas.**—No rain. Weather seasonable. Transplantation of *boro* in Barasat subdivision is in progress. No cattle-disease. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	10	} per rupee.
Barasat	...	...	...	10	
Basirhat	...	...	...	10	
Diamond Harbour	...	...	...	10 $\frac{1}{2}$	

**Nadia.**—No rain. Weather seasonable. Lands being cultivated for *aus*, but rain is urgently needed. Fodder and water sufficient except in Chuadanga. Price of common rice stationary.

**Murshidabad.**—No rain. Weather seasonable. *Rabi* crops are being harvested. Cattle-disease reported from Gowas and Azimganj of Sadar and from thanas Asanpur and Nabagram of Lalbagh subdivisions. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	13	} per rupee.
Jangipur	...	...	Report not received	14	
Kandi	...	...	...	14	
Lalbagh	...	...	...	12 $\frac{1}{2}$	

**Jessore.**—No report received from Narail. No rain. Weather seasonable. Prospects of the crops good. Barley and gram being harvested. Sugarcane being planted. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	11	} per rupee.
Jhenida	...	...	...	10 $\frac{1}{2}$	
Magura	...	...	...	10 $\frac{1}{2}$	
Narail	...	...	Report not received	12 $\frac{3}{4}$	
Bangaon	...	...	...	12 $\frac{3}{4}$	



**Khulna.**—Rainfall nil. Weather getting hot. Lands are being prepared for early rice crop. Prospect of *boro* fair. Fodder and water sufficient. Common rice sells as follows :—

	Srs.	
Sadar ... ..	11½	} per rupee.
Bagerhat ... ..	9½	
Satkhira ... ..	9½	

**Rajshahi.**—Report not received.

**Dinajpur.**—Rainfall at Balurghat 0.1. Weather hot. No cattle-disease. Fodder and water plentiful. Rice 15 seers per rupee in Dinajpur town. Cultivation of *bhadoi* and jute commencing.

**Jalpaiguri.**—Rainfall nil. Weather seasonable. Harvesting of tobacco continues. Fields for *bhadoi* and jute are being prepared. Common rice sells at 11½ seers a rupee. Fodder and water sufficient.

**Darjeeling.**—Rainfall at Darjeeling 77, Kurseong 44, Siliguri 10, Kalimpong nil. Weather seasonable. *Hills*—*tori*, *phapor*, wheat, barley, potatoes progressing favourably. *Terai*—harvesting of tobacco and sugarcane proceeding. Common rice sells as follows :—

	Srs.	
Hills ... ..	9	} per rupee.
Terai ... ..	13	

*Bhutta* sells at Darjeeling 18 seers and at Kalimpong 20 seers per rupee.

**Rangpur.**—Rainfall nil. Weather seasonable. Sowings of *aus* and jute going on. Fodder and water sufficient. Common rice sells as follows :—

	Srs.	
Sadar ... ..	11	} per rupee.
Gaibanda ... ..	11	
Kurigram ... ..	10	
Nilphamari ... ..	13	

**Bogra.**—Average rainfall 0.07, ploughing for *aus* and jute continuing. Rain wanted. Fodder and water sufficient. Common rice sells at 13 seers per rupee.

**Pabna.**—Rainfall nil. Weather seasonable. Prospects of crops good. Sowing has commenced at places. Prices unchanged. Fodder and water sufficient.

**Dacca.**—Rainfall nil. Prospects of crops fair. Rain wanted. Fodder available. No cattle-disease. Common rice 10½ seers per rupee.

**Mymensingh.**—Rainfall at Sadar 0.97, Kishoreganj 0.24, Tangail 0.11. Weather getting hot. Recent rain has done good to *boro* and helped the preparation of the field for *aus* and jute. Common rice sells as follows :—

	Srs.	
Sadar ... ..	9	} per rupee.
Jamalur ... ..	10	
Kishoreganj ... ..	9½	
Tangail ... ..	10½	
Netrakona ... ..	8½	

**Faridpur.**—No rain. Weather getting warm. State and prospects of crops good. Rain wanted. Common rice sells at 11½ seers a rupee.

**Backergunge.**—Rainfall at Sadar 0.72. Weather seasonable. Prospects of crops good. Fodder and water sufficient. No cattle-disease reported. Common rice (*aman*) sells at 11 seers per rupee.

**Tippera.**—Rainfall at Comilla 0.35, Brahmanbaria 0.70. Days hot, nights cool. More rain wanted for paddy cultivation. Fodder available. Water scarcity apprehended in Brahmanbaria. Cattle-disease continues at Nabinagar thana. Common rice sells at 10½ seers per rupee.

**Noakhali.**—Rainfall at Sadar 0.03, Feni nil. Rain wanted. Prospects of standing crops fair. Cattle-disease reported from Lakhmipur. Fodder and water sufficient. Price of common rice at Sadar 11 seers and at Feni 12 seers per rupee.

**Chittagong.**—Rainfall at Sadar 0.20, Cox's Bazar 0.07. More rain wanted. Water and fodder becoming scarce. Cattle-disease reported from several places. Common rice sells at 12½ seers.

**Patna.**—Rainfall nil. Harvesting of *rabi* continues. Lancing of poppy almost ended. Sugarcane pressing going on. Fodder and water for cattle sufficient. Common rice sells at 14 seers per rupee in Patna town.

**Gaya.**—Rainfall nil. Harvesting of *rabi* continues. Collection of opium approaching completion. Common rice selling at 12 seers per rupee.

**Sbahabad.**—No rain. Weather seasonable. Harvesting of *rabi* crops in progress and planting of sugarcane continue. Fodder and water sufficient. Rice 11½ seers a rupee at Sadar.

**Saran.**—Rainfall nil. Weather seasonable. Harvesting of *rabi* still going on. Standing crops good. Poppy leaf weighments in progress. Fodder and water sufficient. Common rice 13 seers 11 chitaks and maize 22 seers 10 chitaks per rupee.

**Champaran.**—Rainfall nil. Weather seasonable. Harvesting of *rabi* continues. Fields being prepared for *bhadoi* paddy. Sugarcane being planted. Fodder and water sufficient. Prices of common rice and maize at Sadar are 14½ and 23½ seers respectively.

**Muzaffarpur.**—Rainfall nil. *Rabi* crops being harvested. Prospects good. Prices are—Common rice 13 seers, wheat 10 seers, barley 20 seers, maize 24 seers, gram 13 seers, *arhar* 12 seers a rupee.

**Darbhanga.**—Rainfall nil. Harvesting of *rabi* in progress. No cattle-disease reported. Fodder and water sufficient. Common rice sells as follows:—

			Srs.	Ch.	
Sadar	...	...	...	15 6	} per rupee.
Samastipur	...	...	...	15 0	
Madhubani	...	...	...	15 9	

**Monghyr.**—No rain. Weather seasonable. Harvesting of *rabi* in progress. Standing crops doing well. No cattle-disease. Common rice sells as follows:—

			Srs.	ch.	
Sadar	...	...	...	12 12	} per rupee.
Begusarai	...	...	...	12 8	
Jamui	...	...	...	12 0	

**Bhagalpur.**—Weather seasonable. Standing crops doing well. *Rabi* being harvested. No cattle-disease. Fodder and water sufficient. Prices stationary.

**Purnea.**—No rain. Days hot, nights cool. Harvesting of *rabi* crops going on. Ploughing continues. Sugarcane being pressed and molasses manufactured. No cattle-disease. Fodder and water sufficient. Common rice sells as follows:—

			Srs.	
Sadar	...	...	...	13
Kishanganj	...	...	...	13
Araria	...	...	...	15

} per rupee.

**Malda.**—Rainfall nil. Weather hot. Gathering of gram, barley and other *rabi* crops going on. Preparation of lands for *bhadoi* and transplantation of *boro* paddy going on. Cattle-disease reported from thanas Gazole and Tulsihatta. Average price of rice 13½ seers per rupee. Fodder and water sufficient.

**Sonthal Parganas.**—Weather warmer. *Rabi* crops being harvested. *Mohua* crop has begun to fall. Cattle-disease reported from Rajmahal. Fodder and water-supply sufficient. Average price of rice 13 seers 11 chitaks and that of maize 20 seers per rupee. Pakaur report not received.

**Cuttack.**—Rainfall at Kendrapara .01, Banki .05, False Point .20. Weather seasonable. *Dalua*, tobacco and *rabi* being harvested. Sugarcane pressed. Condition of cattle generally good. Fodder and water available. Common rice sells as follows:—

			Srs.	Ch.	
Sadar	...	...	...	14 7	} per rupee.
Jajpur	...	...	...	15 12	
Kendrapara	...	...	...	15 12	
Banki	...	...	...	15 12	

**Balasore.**—Rainfall at Sadar .23. Harvesting of *kandha*, *sarad*, and *rabi* continues. *Dalua* rice being reaped. Sugarcane pressing in progress. Ploughing continues. Rice sells at 15½, 13½ and 17 seers per rupee in interior, Balasore, and Bhadrak, respectively. Fodder and water sufficient.

**Angul.**—Rainfall nil. Weather seasonable. Price of common rice stationary. Cattle-disease prevails in the interior of Angul. Fodder and water sufficient.

**Puri.**—Rainfall nil. Weather seasonable. Ploughing continues. *Dalua* paddy ripening. *Mung* and other miscellaneous crops doing well. Fodder and water sufficient. No cattle-disease reported. Rice sells as follows:—

	Srs.	ch.	
Sadar	...	12	7
Khurda	...	15	12
In interior of district	...	15	12

} per rupee.

**Hazaribagh.**—Rainfall at Sadar .04, Giridih nil. Weather seasonable. Fodder and water sufficient. Common rice sells at Sadar at 12½ seers and at Giridih 12½ seers per rupee. Opium estimate remains unaltered.

**Ranchi.**—Rainfall 0.17. Weather seasonable. Ploughing continues. Average price of common rice is 15½ seers per rupee. No cattle-disease reported. Fodder and water sufficient.

**Palamau.**—Harvesting of *rabi* began. Sugarcane doing well. Fodder and water sufficient. Prices are—Rice 10 seers 11 chitaks and *makai* 13½ seers a rupee at Sadar.

**Manbhum.**—Rainfall at Sadar 0.25, Gobindpur nil. Weather seasonable. Prospects of crops on ground good. Fodder and water sufficient. Cattle-disease not reported. Average price of common rice at Sadar 13 seers 3 chitaks and at Gobindpur 12 seers per rupee. Supply sufficient.

**Singhbhum.**—Rain .02. Average price of rice is 15 seers 9 chitaks in the district, at Chaibassa 15 seers.

**General Summary.**—A few scattered light showers are reported from some of the districts of Bengal proper and of Orissa and Chota Nagpur. Want of rain is felt in a few districts. Harvesting of *rabi* and pressing of sugarcane still continue. Collection of opium approaching completion. Sowings of *aus* and jute commenced. Prospects continue favourable. Fodder and water generally sufficient. Cattle-disease reported from a few districts. The price of common rice has risen in 16 districts, fallen in 10, and is stationary in the rest.

By order of the Lieutenant-Governor of Bengal,

F. A. SLACKE,

Secretary to the Govt. of Bengal.

REVENUE DEPARTMENT,

The 26th March 1901.



I.—Table showing the Monthly and Annual Rainfall at 360 Rainfall-recording Stations in Bengal for 1900.

Meteorological Division.	District.	Station.	Month.												Total.
			January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
SOUTH-WEST BENGAL.	BURDWAN	Kalna	—	4.41	0.38	4.08	7.50	8.00	8.21	12.19	18.55	0.53	—	0.31	64.08
		Burdwan	0.08	2.79	0.20	3.44	6.03	8.04	7.79	8.70	17.55	0.15	—	0.20	55.06
		Katwa	0.28	2.09	—	2.42	6.17	9.56	10.34	10.94	19.17	0.75	—	—	61.72
		Manikganj	0.50	0.06	—	6.06	4.07	4.47	6.04	9.71	16.49	0.79	—	0.10	59.05
	BIRBHUM	Mankur	—	0.20	0.15	4.63	6.15	8.32	3.33	11.71	23.94	0.02	—	—	54.90
		Suri	0.55	0.38	—	2.08	5.68	6.04	9.58	10.27	19.15	1.17	—	—	57.11
		Hetampur	0.49	1.46	—	1.77	3.87	5.95	10.15	8.50	24.19	0.71	—	0.02	54.30
		Rampur Hat	0.93	1.74	—	0.78	2.50	7.56	11.08	9.16	18.81	1.14	—	—	52.15
	BANKURA	Bolpur	0.44	0.76	—	2.08	6.67	7.08	6.59	7.83	19.75	0.35	—	—	73.88
		Murari	1.16	0.54	—	0.97	4.67	17.28	23.38	7.11	17.95	1.52	—	—	55.94
Lalpur		0.31	0.95	—	1.78	4.83	7.06	11.53	6.85	21.92	0.71	—	—	52.31	
Bankura		0.16	1.29	0.04	4.72	5.65	5.67	5.01	10.72	18.63	0.25	—	0.17	55.08	
MIDNAPORE	Vishnupur	0.19	2.41	1.29	2.81	4.96	7.79	5.39	11.14	18.47	0.75	—	—	52.07	
	Maliara	0.42	0.12	—	4.01	4.06	4.44	2.86	9.14	14.29	1.24	—	0.22	49.45	
	Khatra	0.22	0.86	0.53	1.29	3.42	4.16	5.66	7.70	24.14	1.30	—	0.17	49.45	
	Indas	0.10	2.12	0.05	3.00	4.39	8.79	7.41	6.96	10.50	0.71	—	—	53.12	
	Kotalpur	—	2.65	0.48	6.19	2.51	6.81	9.28	7.15	11.73	1.17	—	0.20	48.87	
	Onda	0.27	3.80	0.25	1.89	5.83	5.55	3.36	8.40	19.13	0.60	—	0.02	48.77	
	Gangajalkhati	0.47	0.15	—	6.01	2.53	5.07	5.44	11.60	11.27	0.39	—	0.19	45.41	
	Raipur	0.04	1.31	2.09	3.45	6.42	3.60	6.45	8.12	23.58	0.35	—	—	52.07	
	Sonamukhi	0.60	0.73	—	4.60	4.39	8.14	5.32	8.71	17.91	1.58	—	—	53.07	
	Contai	0.02	0.14	0.39	1.72	7.44	11.44	10.29	17.92	26.30	3.50	—	1.22	80.38	
HOOGHLY	Tamluk	—	1.87	0.40	2.67	9.89	8.62	3.47	11.14	25.82	2.19	—	0.04	66.11	
	Midnapore	0.05	0.32	1.82	1.92	6.08	6.32	15.62	14.74	22.28	1.74	—	0.61	71.10	
	Ghatal	0.04	1.51	1.59	3.96	7.04	6.69	6.37	11.36	18.08	0.55	—	0.13	57.22	
	Kukrahaty	—	0.20	0.14	1.83	7.35	6.22	7.11	12.41	36.49	3.24	—	—	74.06	
	Garbhata	0.20	2.63	0.45	3.47	2.71	5.79	13.61	12.77	15.08	0.30	—	0.35	57.36	
	Panskura	—	1.20	0.65	2.67	6.94	6.96	2.60	18.45	21.28	1.54	—	0.31	62.26	
	Dantan	—	0.21	0.11	3.33	7.89	6.18	5.69	10.29	17.79	3.90	—	—	64.39	
	Serampore	—	1.96	0.34	3.87	3.74	9.80	10.10	19.71	40.46	1.72	—	0.25	97.06	
	Hooghly	0.08	0.55	0.47	3.90	4.43	9.64	4.67	16.14	31.97	0.46	—	—	71.67	
	Jahannabad	0.10	0.77	0.99	2.78	6.11	6.45	6.60	6.07	18.18	0.99	—	0.31	43.25	
HOWRAH	Howrah	—	0.80	0.17	3.22	3.44	9.41	6.74	16.28	42.15	0.90	—	0.11	83.22	
	Mohesra	0.63	0.84	0.76	2.22	4.90	10.47	3.18	13.91	27.88	5.33	—	0.45	69.97	
	Ulubaria	—	0.68	0.49	3.22	3.67	8.18	8.01	11.39	27.93	3.77	—	0.30	67.45	
	Saugor Island	—	0.42	0.40	1.25	4.77	14.54	16.39	15.74	29.87	6.35	0.03	0.07	89.81	
	Diamond Harbour	—	0.36	0.02	2.53	6.73	11.81	10.05	10.98	44.26	4.27	—	—	96.81	
	Budge-Budge	—	0.73	0.12	5.07	5.48	7.57	8.80	13.83	33.92	0.75	0.11	0.21	80.59	
	Canning Town	—	0.72	0.93	1.17	6.75	10.29	10.50	11.71	27.67	1.96	0.57	—	77.37	
	Alipore (Observatory)	—	0.75	0.12	2.75	4.17	10.15	8.68	16.28	45.55	0.82	—	0.05	89.32	
	Barrackpore	—	1.15	0.48	4.19	4.29	9.47	9.86	17.88	40.56	2.21	—	0.26	90.35	
	Dum-Dum	0.33	2.23	0.26	5.35	6.66	11.41	9.34	15.99	41.77	1.76	—	—	93.16	
NADIA	Barnasat	0.06	2.28	0.66	1.91	3.03	9.98	6.11	32.09	45.54	5.12	—	—	103.26	
	Basirhat	—	1.12	0.48	1.98	3.07	13.16	11.39	16.08	36.91	1.48	—	—	84.08	
	Ranaghat	—	5.92	0.80	3.32	8.05	6.83	8.39	9.77	26.68	0.75	—	0.08	67.26	
	Krishnagar	0.02	1.27	0.25	3.51	4.67	4.96	8.47	9.70	29.32	0.70	—	—	63.68	
	Chaudagrama	0.07	2.67	—	4.40	4.26	10.29	6.18	8.36	16.53	0.51	—	0.01	63.08	
	Meherpur	0.27	1.89	0.18	6.32	7.33	11.12	9.17	4.51	18.13	2.46	—	—	61.29	
	Kushitia	0.14	1.36	—	2.67	6.53	10.92	9.03	7.91	19.50	1.28	—	—	59.44	
	Kandi	0.27	0.79	0.05	1.77	7.85	13.46	9.65	20.67	1.86	—	—	—	58.96	
	Berhampore	0.05	1.40	0.52	1.77	1.87	6.84	16.31	9.62	21.96	0.49	—	—	62.23	
	Lalbag	0.02	0.58	—	2.78	1.45	5.69	15.96	11.88	17.07	0.40	—	—	56.34	
MURSHIDABAD	Azimganj	0.08	0.33	—	2.21	1.98	10.22	13.50	9.85	13.74	1.02	—	—	53.32	
	Jangipur	0.93	0.59	0.09	0.88	3.73	9.70	14.31	5.38	12.49	1.19	—	—	40.06	
	Lakola	1.29	2.10	—	3.30	1.70	8.70	10.45	6.20	18.50	2.80	—	—	53.25	
	Akhraiganj	0.74	—	—	0.98	1.39	11.06	11.44	4.36	12.60	0.91	—	—	43.38	
	Patkabari	0.20	0.90	—	1.10	0.89	7.10	5.70	3.59	16.50	—	—	—	33.20	
	Dumkal	0.55	1.90	0.50	3.87	2.75	13.93	13.57	6.90	12.70	0.15	—	—	55.17	
	Narail	0.02	3.35	0.70	3.51	7.43	9.08	10.42	13.06	24.03	8.25	—	—	75.55	
	Jessore	—	5.98	1.40	1.91	7.18	15.60	10.17	9.60	22.96	5.96	0.03	0.14	80.11	
	Jhenidah	0.02	1.32	0.11	1.75	4.63	15.68	13.75	5.68	20.86	2.37	—	—	67.67	
	Magura	—	2.43	0.15	4.55	7.18	8.12	14.17	9.10	18.51	1.01	—	—	66.02	
JESSORE	Bangon	0.05	4.24	0.29	1.96	5.01	9.79	9.62	8.05	37.51	3.74	—	—	81.16	
	Sathkira	—	1.69	—	1.30	7.41	12.28	12.07	16.31	37.19	4.29	—	—	89.54	
	Bagerhat	—	2.88	0.82	1.83	8.79	14.66	19.43	10.91	35.80	2.25	0.16	—	96.69	
	Khulna	—	3.05	0.17	2.42	7.32	12.67	13.69	10.20	20.64	1.45	—	—	71.37	
	Kaliganj	—	3.61	—	2.13	4.92	11.75	17.70	20.80	51.90	5.44	—	—	118.25	
	Nakipur	—	1.71	—	4.02	7.46	13.11	10.61	14.66	30.78	3.83	0.19	—	86.22	
	Dumuria	—	3.53	0.17	1.81	4.38	12.05	10.55	9.35	29.93	0.80	—	—	75.46	
	Rampal	—	1.06	0.45	5.19	5.16	15.44	10.10	7.96	29.68	1.06	0.05	—	82.04	
	Kalora	—	2.80	0.66	1.30	5.70	9.45	11.86	10.78	34.48	2.11	—	0.04	79.18	
	Paikpacha	—	2.21	0.34	2.50	9.92	10.40	12.22	21.59	37.54	7.56	0.28	—	104.76	
RAJSHAH	Mollakat	—	1.77	—	4.41	6.44	12.60	13.74	22.94	32.01	0.97	—	—	95.48	
	Morelganj	—	1.55	0.02	5.33	4.48	13.47	17.68	10.70	33.74	2.22	0.44	—	89.63	
	Tala	—	2.24	0.69	1.90	8.37	14.91	15.19	13.83	30.97	3.14	—	—	90.95	
	Bonla	0.22	1.00	0.10	0.97	2.68	9.54	13.36	9.98	14.50	2.60	—	—	55.44	
	Nator	0.54	0.34	2.53	2.04	4.08	11.78	16.39	8.17	12.18	0.25	—	—	58.25	
	Naogaon	0.34	1.39	—	0.50	1.79	15.77	15.14	6.55	7.21	0.32	—	—	40.61	
	Lalpur	0.34	0.75	0.10	1.06	3.26	9.88	9.47	11.27	15.06	0.55	—	—	61.74	
	Manda	1.11	1.10	0.15	1.25	3.32	12.30	7.10	3.92	5.75	2.03	—	—	38.06	
	Mahadebpur	0.75	0.23	0.27	1.75	2.45	12.71	18.21	8.29	7.43	0.61	—	—	48.00	
	Nathpur	1.13	0.41	—	1.59	3.41	15.68	11.10	3.72	13.86	0.28	—	—	61.18	
DINAJPUR	Nawabganj	0.53	0.93	—	0.42	4.65	24.71	22.89	4.62	13.73	2.00	—	—	74.48	
	Gangarampur	0.65	0.87	—	0.37	5.53	16.63	14.99	9.64	13.79	2.95	—	—	65.35	
	Choraman	0.75	2.28	—	0.53	6.61	13.85	15.96	7.91	16.86	0.61	—	—	65.35	
	Raiganj	0.35	0.34	0.05	0.08	6.25	24.27	27.51	6.94	11.33	2.28	—	—	65.35	
	Binnajpur	0.16	1.83	0.12	0.25	8.24	24.22	29.70	14.54	15.18	0.54	—	0.18	79.50	
	Balughat	0.90	0.57	—	1.86	5.11	18.62	11.75	6.03	5.04	1.28	—	—	44.16	
	Thakurgaon	0.01	0.46	0.24</											

DISTRICT.		STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.		
COOCH BEHAR	Rajshahi—consolid.	Dinhatia .....	—	0'29	1'50	1'21	15'00	21'29	26'52	3'73	11'47	2'82	—	—	84'73		
		Cooch Behar .....	—	0'15	2'59	5'25	15'23	19'81	27'36	5'58	14'21	1'17	—	—	91'35		
		Minkiganj .....	—	0'25	1'65	0'95	10'40	23'11	30'39	7'05	8'65	3'84	—	—	86'29		
		Mathabhangra .....	—	0'56	2'34	3'08	7'69	19'61	23'66	3'29	12'72	1'57	—	—	74'97		
		Paibari .....	—	0'17	2'07	9'53	15'38	21'03	27'18	5'53	15'81	2'55	—	—	102'85		
		Bhawaniganj (Gai- banda) .....	0'65	1'24	0'80	2'58	8'52	20'20	18'35	4'08	5'28	1'59	—	—	63'40		
		Rangpur .....	—	0'73	0'26	0'26	8'20	25'00	22'58	5'12	8'45	1'08	—	—	72'55		
		Peerganj .....	0'43	0'81	0'31	1'15	6'74	23'05	17'10	7'80	6'18	0'26	—	0'18	64'01		
		Kuriganj .....	—	0'52	0'65	0'87	14'43	10'79	27'97	3'39	6'55	3'13	—	—	77'60		
		Gobindganj .....	0'67	0'50	0'35	1'20	4'73	10'94	21'35	8'24	4'81	2'04	—	—	60'83		
RANGPUR	Nil- phamari).	Bagdagra .....	—	1'84	0'55	0'65	7'35	21'79	20'51	8'62	12'67	2'60	—	—	75'98		
		Ulipur .....	0'11	0'67	1'39	1'23	11'39	26'21	26'21	4'32	11'87	0'48	—	—	83'81		
		Sunderganj .....	0'17	0'62	0'71	0'82	8'07	19'71	22'95	7'71	6'18	0'31	—	—	67'25		
		Sherpur .....	0'36	0'15	0'05	3'46	3'43	19'32	20'47	7'33	3'65	0'49	—	—	59'71		
		Nowkhilla .....	0'28	0'12	0'14	3'33	7'43	24'75	25'03	3'78	8'89	0'46	—	—	74'24		
		Bogra .....	0'67	0'01	0'08	3'75	2'49	20'71	19'35	5'39	4'75	2'76	—	—	63'85		
		Pauchibibi .....	0'25	0'81	—	2'38	3'27	15'43	13'32	4'08	7'17	3'40	—	—	51'10		
		Palma .....	0'14	1'28	0'32	4'55	4'21	14'47	13'21	6'14	15'31	0'45	—	—	66'95		
		Sirajganj .....	0'25	0'38	1'00	2'21	3'07	16'11	13'82	4'29	7'79	1'44	—	—	50'36		
		DACCA	Dacca.	Munshiganj .....	0'01	2'15	1'26	2'12	5'31	11'41	13'05	13'78	6'46	0'08	0'10	—	55'75
Dacca .....	—			1'05	2'20	2'65	3'73	9'74	16'18	7'71	6'01	1'01	0'10	—	51'25		
Naryanganj .....	—			2'83	2'18	2'43	4'80	9'25	11'04	10'07	5'39	0'22	—	—	45'51		
Manikganj .....	—			1'03	2'60	4'17	4'56	16'70	14'29	9'09	6'64	0'58	—	0'02	30'78		
Jaydebpur .....	—			2'25	0'15	3'57	8'47	12'12	11'58	6'81	4'43	2'30	0'03	—	52'01		
Kishorkanj .....	0'07			2'35	3'39	8'63	6'10	18'74	27'44	7'11	10'94	2'50	0'03	—	87'31		
Atia (Tangail) .....	0'14			0'64	0'70	4'03	4'27	12'12	10'43	5'53	5'20	2'12	—	—	46'05		
Mymensingh .....	0'24			1'03	10'47	6'13	8'21	30'81	30'86	8'19	10'26	1'82	—	—	108'12		
Jamalpur .....	—			1'50	3'83	5'47	4'30	25'29	22'98	3'86	4'88	0'80	—	—	72'41		
Netrakona .....	0'07			1'43	8'36	2'71	6'66	32'21	25'35	16'00	14'72	2'40	—	—	109'91		
MYMENSINGH	Dacca.	Subarnakhali .....	—	—	1'00	2'40	4'05	14'40	14'46	3'79	5'88	1'60	—	—	48'27		
		Durgapur .....	—	0'20	5'89	0'55	17'85	38'80	16'90	11'10	13'99	0'84	—	—	109'94		
		Sherpur Tola .....	0'34	0'96	4'12	5'00	6'15	15'02	24'85	10'72	2'73	0'22	—	—	70'41		
		Diwanganj .....	0'60	0'89	0'22	4'47	10'07	18'84	28'15	10'65	2'30	2'20	—	—	78'30		
		Noiltabari .....	0'27	0'73	2'02	2'41	8'72	16'35	30'95	9'15	11'36	1'26	—	—	83'85		
		Madaripur .....	—	2'11	2'46	2'90	4'50	6'25	8'03	9'40	14'92	1'00	—	0'30	51'03		
		Faridpur .....	—	2'45	1'29	2'07	8'37	10'92	14'48	11'50	13'58	4'33	0'30	—	69'89		
		Goalundo .....	0'11	2'36	0'74	2'81	5'92	7'11	12'61	9'26	11'00	3'40	—	—	55'22		
		Patuakhali .....	—	2'47	—	3'77	2'88	14'74	22'33	16'13	28'07	1'60	2'07	—	94'06		
		Pirojpur .....	—	2'77	0'33	2'36	7'44	13'73	17'50	13'17	29'44	1'48	0'18	—	84'49		
RACKERBUNGEE	Dacca.	Barisal .....	—	0'58	0'22	3'43	3'48	18'47	19'88	14'11	25'44	3'27	0'08	—	88'76		
		Gaurandi .....	—	1'38	0'30	4'33	6'24	12'05	18'00	14'84	17'13	0'90	0'11	—	75'37		
		Bhola .....	—	1'05	0'46	2'86	4'00	22'21	21'31	14'37	18'77	4'88	0'28	—	90'70		
		Daulatkhani .....	—	1'36	0'82	2'61	8'49	25'39	22'31	18'00	16'92	1'48	0'07	—	99'35		
		Bauphal .....	—	2'22	0'36	1'47	0'22	23'56	23'87	19'28	32'01	2'27	1'28	0'05	113'40		
		Agartala .....	—	0'43	6'50	3'64	5'77	18'22	19'33	2'40	5'45	1'10	—	—	71'84		
		Cumilla .....	—	2'07	2'73	4'69	5'81	20'25	23'79	9'06	5'04	3'09	0'02	—	77'30		
		Chandpur .....	—	2'50	1'78	4'10	4'65	11'02	11'95	14'31	11'30	0'98	0'16	0'02	63'16		
		Brahmanbaria .....	0'08	2'42	7'50	5'03	5'08	17'93	27'40	4'57	4'09	2'85	0'12	—	79'53		
		Ramchandrapur .....	—	1'06	1'70	1'93	3'63	13'03	14'17	4'58	1'59	0'20	—	—	41'80		
TIPPERA	Chittagong.	Nasirganj .....	0'12	1'58	8'09	17'50	5'56	15'10	26'69	9'63	5'16	0'10	0'20	—	90'09		
		Daudkandi .....	—	2'08	2'05	4'70	3'78	8'96	10'01	6'50	6'25	—	—	—	41'33		
		Kasim .....	0'06	2'02	2'32	4'35	10'14	24'31	24'79	7'23	4'95	2'05	—	—	82'23		
		Laksam .....	—	2'06	2'82	2'12	8'50	24'05	21'11	7'35	3'99	2'19	1'41	—	72'60		
		Noakhali .....	—	0'79	4'06	3'71	9'55	34'57	27'09	21'75	11'32	4'83	0'74	—	118'11		
		Fenny .....	—	0'78	4'09	6'54	6'87	25'36	27'42	17'15	7'87	2'89	0'41	—	101'29		
		Harishpur .....	—	1'59	2'27	2'69	5'45	25'35	22'25	16'98	10'98	3'01	—	—	113'48		
		Amganj .....	—	0'91	2'87	2'75	4'80	25'46	18'78	10'65	6'41	3'50	0'55	0'02	91'29		
		Chhagalnaya .....	—	1'40	2'57	4'02	9'64	27'47	33'17	15'92	6'47	1'28	0'15	—	103'09		
		Hatya .....	—	1'30	0'51	2'87	8'77	25'60	27'85	19'76	15'63	7'12	0'34	—	116'37		
HILL TIPPERA	Chittagong.	Lakhipur .....	—	1'01	1'22	4'10	4'46	24'58	23'90	14'42	15'69	1'42	1'01	—	90'77		
		Cox's Bazar .....	—	1'05	—	2'26	6'56	33'83	33'24	21'40	14'38	0'70	—	—	115'59		
		Chittakong .....	—	0'72	0'34	2'68	6'62	30'36	19'30	11'01	3'71	1'46	—	—	76'40		
		Kutubdia .....	—	0'64	—	2'39	10'39	25'86	18'56	18'56	8'81	7'82	2'62	—	75'02		
		Satkanya .....	—	1'55	—	4'12	7'45	24'78	14'25	12'79	5'61	2'34	—	—	72'78		
		Kodala .....	—	0'84	1'95	2'17	5'37	25'05	13'59	10'21	4'92	6'01	0'07	—	70'39		
		Fenosa .....	—	2'39	1'71	4'56	8'90	26'82	18'98	13'55	6'72	4'23	0'41	—	87'27		
		Mirsarai .....	—	1'80	3'57	6'18	9'24	30'19	29'77	13'09	8'34	3'15	0'22	—	112'06		
		CHITTAGONG	Hill Tracts.	Rangamatia .....	—	2'69	0'90	3'22	10'11	15'95	11'48	11'54	7'53	2'09	0'02	—	65'63
				Bandarban .....	—	1'23	1'94	3'75	4'54	29'64	13'23	7'17	6'81	4'21	—	—	63'37
Barkat .....	—			?	?	?	?	?	?	?	?	?	—	0'65	—		
Patna .....	3'50			0'24	—	—	1'98	7'90	14'09	10'82	8'50	1'01	—	0'24	48'88		
Dinapore .....	3'05			0'32	—	—	0'45	6'09	10'13	10'47	7'07	0'70	—	—	41'07		
Bihar .....	2'64			0'58	—	0'34	1'91	8'63	6'73	7'67	5'06	1'26	—	—	55'23		
Barh .....	3'83			0'25	—	—	0'77	13'98	5'83	5'09	7'63	1'75	—	—	59'38		
Bikram .....	3'33			0'19	—	—	3'61	9'14	8'41	6'22	6'05	1'36	—	—	58'63		
Hilsa .....	4'65			0'15	—	—	1'60	12'60	7'39	4'50	10'20	0'83	—	—	41'55		
Aurangabad .....	3'65			1'22	—	0'94	0'27	7'50	6'96	11'05	7'24	4'20	—	1'26	44'29		
GAYA	Patna.	Gaya .....	2'05	1'07	—	0'54	1'61	7'54	4'91	8'04	8'93	1'78	—	—	37'19		
		Nawada .....	1'72	0'98	—	—	0'93	7'81	7'18	8'05	12'11	2'34	—	—	41'49		
		Jahannabad .....	1'79	0'74	—	0'71	0'70	9'25	5'17	6'64	9'48	1'90	—	—	36'88		
		Arwal .....	2'86	0'41	—	0'29	0'36	6'33	7'85	4'06	12'82	1'78	—	—	37'44		
		Daudnagar .....	2'25	0'71	—	—	0'34	5'81	10'41	6'46	6'53	3'10	—	—	36'79		
		Sherghati .....	2'35	0'31	0'01	0'00	0'47	6'44	6'17	8'43	9'14	2'40	—	—	36'79		
		Rajauli .....	?	?	?	?	?	?	?	?	?	?	—	—	36'79		
		Pakri Barawan .....	2'32	0'13	—	0'05	0'60	10'80	6'35	4'59	7'05	3'08	—	—	24'37		
		Deo .....	2'90	1'29	—	0'30	0'10	3'78	5'51	8'54	10'85	2'42	—	—	38'06		
		Huxar .....	2'06	0'5													



Metropolitan Division.	Division.	DISTRICT.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Patna—concluded.	SAHAR	Gopalganj	...	2'54	0'22	0'03	—	2'51	5'83	11'94	5'71	9'09	2'20	—	0'50	33'17
		Siwan	...	3'37	0'36	0'05	—	0'77	5'17	9'09	4'52	6'37	1'08	—	0'85	32'30
		Ekma	...	3'45	—	—	—	—	8'58	10'35	9'37	7'43	0'70	—	0'26	40'13
		Chaura	...	3'57	0'29	—	—	0'74	8'37	9'28	6'55	9'50	0'05	—	0'35	39'09
		Hathwa	...	3'12	0'17	—	—	1'47	8'01	12'42	4'06	7'71	2'12	—	0'35	40'45
		Amour	...	3'00	0'06	—	—	1'20	6'76	8'55	7'55	11'58	1'16	—	0'35	40'21
		Basantpur	...	3'57	0'41	—	—	0'78	9'41	5'28	7'48	10'37	2'27	—	0'35	38'35
		Daraula	...	3'88	0'07	—	—	2'28	2'54	9'15	6'34	6'49	1'09	—	0'46	33'73
		Bhoreh	...	3'35	0'10	0'07	0'31	4'45	5'60	13'14	5'18	8'35	2'76	—	0'40	43'21
	CHAMPARAN	Motihari	...	3'42	0'17	0'08	0'02	1'09	9'31	11'60	6'74	13'38	2'32	—	0'51	40'08
		Bettiah	...	2'59	0'31	0'09	0'39	5'19	6'25	10'98	10'23	14'68	4'40	—	0'23	53'28
		Bagaha	...	4'00	0'05	0'25	0'23	1'70	7'53	9'49	4'99	10'71	3'37	—	0'25	45'47
Bihar—concluded.	MURSHIDABAD	Burhura	...	2'47	0'18	0'06	0'50	0'88	5'06	13'06	7'06	13'13	4'04	—	0'25	47'29
		Ramnagar	...	3'09	0'35	—	—	1'94	10'16	16'87	3'73	10'51	4'10	—	0'50	51'76
		Sitamarhi	...	2'09	0'02	0'60	0'23	3'09	13'33	17'71	5'76	9'15	3'72	—	0'15	57'35
	MURSHIDABAD	Muzaffarpur	...	1'57	0'03	—	—	1'52	9'66	13'90	3'56	8'22	1'09	—	0'17	40'05
		Hajipur	...	2'83	0'23	—	—	0'38	7'04	8'94	5'61	10'45	0'85	—	0'15	36'48
		Paru	...	2'71	—	—	—	0'26	6'22	13'43	2'56	9'48	0'97	—	0'24	36'12
	MURSHIDABAD	Mahuwa	...	3'53	0'13	—	—	0'37	9'40	9'21	4'60	—	—	—	—	27'34
		Shihar	...	1'87	0'10	0'20	—	1'13	11'19	9'09	5'05	8'23	2'41	—	0'30	39'48
		Popri	...	1'33	0'18	—	—	0'49	7'85	11'67	4'26	10'51	2'35	—	0'15	33'79
	DARBHANGA	Tajpur	...	2'12	0'48	—	—	1'17	8'27	11'88	6'53	13'32	0'45	—	0'07	44'25
		Darbhanga	...	1'34	0'07	0'01	—	0'40	12'31	12'16	3'89	13'12	0'90	—	0'12	45'22
Bhagalpur.	DARBHANGA	Madhubani	...	1'58	0'25	—	—	2'12	10'94	12'36	4'21	14'55	2'03	—	0'31	48'64
		Bahera	...	0'88	0'22	—	—	0'97	11'19	11'19	3'02	8'76	0'69	—	—	38'29
		Rosera	...	1'82	0'42	—	0'17	0'60	9'02	15'01	8'88	8'67	2'22	—	0'10	48'41
	MORGHYA	Begusarai	...	3'11	0'52	0'02	0'25	0'87	10'62	18'44	12'10	3'53	2'29	—	0'17	51'26
		Monghyr	...	2'31	0'33	—	0'09	1'63	11'59	12'08	8'65	7'40	3'43	—	—	48'29
		Jamui	...	1'96	0'86	—	0'50	1'69	11'01	14'53	7'22	8'05	1'74	—	0'19	47'71
	MORGHYA	Gogri	...	3'03	0'19	—	0'65	2'43	16'12	15'64	11'48	10'94	2'32	—	1'15	63'26
		Jamalpur	...	2'14	0'52	—	0'70	1'61	13'44	19'04	9'91	9'97	4'69	—	—	52'08
		Shahpur	...	2'02	0'15	—	—	0'59	9'02	6'47	1'52	1'52	3'80	—	0'72	29'44
	BAGALPUR	Chakri Bamda	...	2'20	0'57	—	0'60	3'06	9'04	12'87	7'91	12'26	2'39	—	0'18	51'77
Bhagalpur.	BAGALPUR	Chuprean	...	1'27	0'54	—	0'82	1'80	11'30	17'73	5'35	8'64	2'12	—	—	50'17
		Gidhour	...	2'05	0'50	—	0'04	4'39	9'05	6'25	7'29	7'06	1'42	—	—	39'82
		Khargpur	...	2'81	0'80	0'10	0'63	2'86	10'06	12'19	9'46	13'49	3'55	—	—	55'73
	BAGALPUR	Madhipura	...	1'01	0'43	—	0'35	3'74	15'10	14'48	6'98	15'51	2'27	—	0'09	59'56
		Bangson (Syfabad)	...	1'16	0'28	—	—	1'55	14'26	15'37	6'28	10'57	1'84	—	—	51'33
		Sapaul	...	1'24	0'52	—	0'20	3'03	15'73	22'43	6'56	11'37	1'09	—	0'02	60'08
	BAGALPUR	Protapganj	...	0'70	0'50	—	—	0'27	12'56	12'01	8'63	8'63	1'05	—	0'21	51'42
		Bhagalpur	...	2'35	0'40	0'03	0'58	2'85	18'76	16'08	13'09	9'88	5'28	—	0'07	70'78
		Banka	...	1'08	1'09	—	0'10	2'18	13'47	15'34	13'06	10'59	4'39	—	—	62'79
	BAGALPUR	Colong	...	1'91	0'58	—	0'10	3'16	23'14	14'31	6'77	9'91	2'68	—	—	65'16
BAGALPUR	Banshi	...	1'76	0'25	—	0'40	2'34	13'40	10'48	14'23	11'52	1'83	—	—	66'01	
Bhagalpur.	PURNIA	Kishanganj	...	0'30	1'41	0'19	—	8'25	10'46	28'05	6'09	26'80	4'10	—	—	98'44
		Araia	...	0'25	2'33	—	—	9'19	14'26	19'35	4'17	19'59	2'79	—	—	73'05
		Purnea	...	0'47	0'98	0'09	0'01	3'05	23'25	21'00	5'08	21'46	1'33	—	0'11	77'46
	PURNIA	Sondhara (Korah)	...	0'59	0'32	—	—	2'80	24'59	27'02	9'15	20'17	2'80	—	0'50	88'24
		Banshi	...	0'44	0'33	—	—	6'30	15'12	22'77	5'39	18'90	3'09	—	—	69'05
		Forbesganj	...	0'58	1'50	—	—	8'38	18'66	19'54	6'15	16'29	1'50	—	—	74'40
	MALDA	Kaliaganj	...	0'10	0'40	—	—	8'44	11'28	30'05	10'27	11'10	2'60	—	—	74'24
		Maida	...	1'06	0'38	—	1'29	2'46	12'70	11'44	8'28	12'97	0'91	—	—	51'40
		Chinchat	...	0'87	0'40	—	0'77	4'65	16'59	18'11	5'78	17'18	2'02	—	—	65'58
	Orissa.	MALDA	Gajol	...	0'67	0'35	—	1'48	4'35	21'57	18'23	7'97	10'77	4'05	—	—
Sibganj			...	1'60	0'17	—	0'26	3'18	10'34	10'68	7'58	9'58	1'09	—	—	45'58
SOUTHAL PARAGANAS.		Rajmahal	...	1'14	0'31	—	0'80	1'29	13'31	9'02	4'84	10'52	3'75	—	—	44'05
		Godda	...	1'08	0'74	—	0'33	4'26	14'87	9'94	10'09	10'75	3'55	—	—	66'11
		Pakour	...	1'71	0'38	—	0'31	4'12	10'52	14'83	6'09	12'90	2'04	—	—	53'06
SOUTHAL PARAGANAS.		Naya Dumka	...	1'61	0'31	—	1'25	5'36	7'46	15'26	10'73	14'74	1'02	—	—	58'33
		Deoghur	...	2'38	0'35	—	2'77	4'56	6'81	16'05	6'22	14'45	3'51	—	0'08	57'19
		Jamtara	...	1'37	0'44	—	2'08	2'12	5'81	7'21	12'41	14'41	0'37	—	0'12	46'34
SOUTHAL PARAGANAS.		Mohagama	...	0'40	0'60	—	0'44	1'20	22'28	12'79	7'42	10'57	4'39	—	—	60'09
		Nandhat	...	0'52	—	—	—	2'43	9'29	20'24	8'06	15'06	—	—	1'80	67'31
Orissa.	SOUTHAL PARAGANAS.	Assamboni	...	0'33	—	—	0'27	2'69	8'31	12'58	13'70	23'47	0'27	—	—	61'71
		Katikhund	...	1'33	0'30	—	0'91	2'77	11'74	14'12	16'05	23'03	2'76	—	—	73'59
		Madhupur	...	1'34	0'19	—	0'98	5'27	7'90	8'45	10'93	13'44	2'06	—	—	51'06
	SOUTHAL PARAGANAS.	Sarwan	...	2'09	0'27	—	0'66	4'19	7'42	7'35	12'21	15'48	2'58	—	—	53'45
		Sarath	...	1'78	0'50	—	1'13	2'08	5'40	9'06	9'87	16'03	0'85	—	—	47'21
		Barkope	...	1'76	0'54	—	0'46	4'07	17'12	13'83	10'42	9'13	2'30	—	—	60'22
	SOUTHAL PARAGANAS.	Bhagya	...	1'21	—	—	—	3'40	17'80	9'99	6'85	12'00	1'77	—	—	53'05
		Mohespore	...	1'13	0'23	—	0'74	1'03	10'37	16'34	5'91	14'94	1'57	—	1'65	54'09
		Hiranpur	...	1'36	0'20	—	2'22	9'04	11'60	15'03	8'04	19'23	1'35	—	—	63'75
	SOUTHAL PARAGANAS.	Barharwa	...	1'60	0'28	—	0'01	2'20	14'19	18'00	7'97	10'87	4'27	—	—	50'39
Orissa.	CUTTACK	Sahibganj	...	1'62	0'24	—	—	2'91	25'87	11'77	10'06	14'76	2'04	—	—	69'17
		Bario	...	1'89	0'47	—	0'20	3'79	19'29	18'63	9'07	12'20	1'23	—	—	68'58
		Jagatsingpur	...	—	—	0'53	0'35	3'13	9'61	8'43	26'01	12'82	8'11	—	—	60'22
	CUTTACK	Barki	...	—	0'40	—	1'94	2'29	3'16	8'03	7'57	14'04	24'01	10'70	—	75'59
		Cuttack	...	—	—	1'08	2'74	2'80	4'08	8'10	21'17	22'38	8'04	—	—	70'39
		False Point	...	—	—	0'11	0'40	2'34	6'80	16'79	22'60	18'26	7'43	—	0'04	73'75
	CUTTACK	Kendrapara	...	—	0'74	0'11	0'59	3'03	6'07	10'09	20'93	18'53	5'79	—	0'03	65'91
		Jajpur	...	—	2'10	0'33	2'09	1'81	6'20	18'87	20'34	18'36	6'46	0'10	—	77'24
Orissa.	PURI	Dharmasala	...	—	1'28	3'83	2'65	4'45	7'16	23'25	25'28					



Meteorological Division.	Division.	DISTRICT.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
CHOTA NAGPUR—continued.	Chota Nagpur—continued.	RANCHI	Lohardaga ...	3.19	0.80	0.04	2.57	1.53	8.05	7.94	14.26	17.16	2.56	—	0.49	58.55
			Ranchi ...	1.79	0.64	0.24	4.18	1.91	10.12	8.05	14.91	17.16	0.78	—	0.28	60.14
			Silli ...	1.33	0.78	0.25	2.29	2.88	6.54	11.05	11.98	22.34	2.09	—	0.09	61.63
			Paikot ...	1.55	0.05	0.03	3.63	1.90	9.24	15.88	19.10	21.11	3.77	—	0.87	77.56
			Bano ...	1.29	—	—	—	—	9.50	16.77	28.12	15.45	2.22	—	0.85	74.30
			Tamar ...	0.71	0.76	—	2.70	4.00	11.43	9.59	14.09	22.85	1.29	—	0.27	67.09
			Kurdeg ...	—	—	—	—	0.90	6.37	—	24.07	12.55	—	—	1.57	—
			Chainpur ...	3.27	0.20	—	1.78	1.18	5.56	14.09	19.96	14.49	2.78	—	1.21	63.77
			Sirgaja ...	3.20	—	—	0.20	0.25	4.70	18.00	21.30	26.60	7.00	—	2.60	83.75
			Jashpur ...	3.38	—	—	4.70	1.42	7.97	16.20	20.23	23.70	8.88	—	1.55	88.03
			Gangpur ...	2.24	—	—	0.09	4.24	15.83	19.10	27.88	19.10	11.98	—	1.87	162.33
CHOTA NAGPUR—continued.	Chota Nagpur—continued.	PALAMAU	Palamau ...	3.58	0.04	—	0.98	0.61	5.33	6.79	11.81	9.20	1.54	—	1.56	41.44
			(Daltonganj).	—	—	—	—	—	—	—	—	—	—	—	—	—
			Balumath ...	6.45	—	—	0.40	1.50	7.90	9.60	19.39	14.18	3.00	—	2.42	64.84
			Husainabad ...	4.75	1.40	—	1.20	1.30	2.00	19.75	14.47	19.66	1.10	—	2.20	67.82
			Garhwa ...	3.67	0.38	—	1.10	0.71	5.72	9.38	9.10	14.20	0.97	—	1.23	46.76
			Mahadand ...	3.05	0.43	—	1.88	1.01	7.56	16.00	20.93	12.44	2.12	—	1.58	67.00
			Panki ...	4.12	0.55	—	0.87	0.40	7.20	9.64	11.03	9.43	1.50	—	0.71	46.13
			Latehar ...	4.12	—	—	0.57	1.78	7.10	12.75	13.94	14.28	2.85	—	2.70	60.09
			Nagaruntari ...	1.99	0.13	0.23	0.96	0.42	1.25	9.39	12.20	15.16	1.79	—	2.45	45.90
			Kanka ...	4.81	0.04	—	0.50	3.40	6.70	8.65	16.76	17.70	1.57	—	2.00	63.13
			Chatterpore ...	2.44	0.47	—	0.11	0.92	8.92	9.86	9.81	12.69	0.73	—	3.21	48.66
CHOTA NAGPUR—continued.	Chota Nagpur—continued.	MANDRUM	Purulia ...	0.63	1.25	0.56	4.37	3.95	5.27	4.18	11.41	15.97	1.04	—	0.27	48.96
			Gobindpur ...	1.48	0.38	—	1.94	2.25	9.13	8.93	8.87	14.25	2.31	—	0.12	49.09
			Baghunathpur ...	0.79	0.20	—	3.69	2.45	5.44	4.64	10.25	17.20	0.77	—	0.10	46.44
			Rarabhum ...	0.32	0.22	0.08	3.07	1.19	10.40	10.77	13.16	26.54	1.37	—	0.10	67.22
			Jhaida ...	1.48	1.36	—	1.91	3.41	8.96	13.59	20.48	1.55	—	—	0.08	58.92
			Chas ...	1.91	0.49	—	3.25	1.78	7.32	4.01	13.92	10.98	1.65	—	—	45.31
			Pandra ...	1.26	0.49	—	2.95	2.74	7.66	6.06	11.40	15.07	1.14	—	0.05	48.52
			Chahassa ...	0.31	—	0.27	3.87	4.18	5.92	8.56	16.54	18.12	1.67	—	0.26	58.59
			Chakardharpur ...	1.15	—	0.20	3.57	2.65	8.70	7.45	17.63	14.99	1.51	—	—	—
			Ghatsila ...	0.03	0.35	1.02	3.74	4.08	8.11	11.17	16.69	22.07	1.00	—	—	68.26
CHOTA NAGPUR—continued.	Chota Nagpur—continued.	SINGHRUM	Baharagura ...	—	0.70	1.83	3.53	7.41	5.43	12.54	15.47	17.65	1.77	—	—	66.39
			Gailkura ...	0.50	—	0.11	2.69	7.61	10.27	15.02	19.34	18.83	2.90	—	0.96	78.23
			Kaitapur ...	0.16	—	0.59	0.65	4.89	6.96	10.77	9.25	22.39	0.35	—	—	56.61
			Monaharpur ...	0.28	—	0.29	2.78	3.21	8.75	13.10	19.59	13.74	2.09	—	—	—
			Katgori ...	—	—	—	—	—	—	—	6.90	17.10	—	—	0.50	—
			Seraikilla ...	—	—	—	—	—	—	—	13.60	14.02	2.00	—	0.04	—
			Kharwan ...	—	—	—	—	—	—	—	17.47	18.95	2.78	—	—	—
			Koonjhar ...	0.60	0.12	0.65	2.16	1.90	13.61	8.10	19.43	18.19	5.01	—	0.94	64.71
			Anandpur ...	0.18	2.00	0.67	1.60	6.25	6.10	13.84	17.40	21.55	5.57	—	—	75.16
			Kunjhangarh ...	—	0.05	0.76	1.55	1.74	8.90	8.95	13.30	10.97	8.66	—	—	54.78
CHOTA NAGPUR—continued.	Chota Nagpur—continued.	ANGUL	Angul ...	0.31	0.05	0.13	0.74	3.96	6.80	5.67	10.66	15.28	4.43	—	—	45.23
			Bisimara ...	0.24	0.02	0.55	2.81	2.10	13.45	7.31	18.09	9.95	5.13	—	—	59.57
			Pal Lahara ...	0.67	0.11	1.23	1.54	5.33	7.47	27.90	23.67	20.42	6.09	—	0.12	91.95
			Talcher ...	0.23	—	0.28	0.47	2.53	10.93	10.73	15.61	7.41	8.21	—	—	62.20
			Dhenkanal ...	—	—	0.41	1.02	5.51	6.49	7.60	17.41	22.76	11.42	—	—	73.61
			Batsinga ...	0.03	—	0.15	1.13	3.02	8.76	15.00	18.31	14.50	7.56	—	—	63.46
			Baramba ...	—	—	2.48	1.66	1.98	9.73	9.63	16.12	16.42	4.93	—	—	59.39
			Narsinipur ...	—	0.12	0.10	1.53	1.55	3.35	9.97	17.89	15.92	—	—	—	40.43
			Chhindipada ...	—	—	—	—	—	—	—	—	—	—	—	—	—

METEOROLOGICAL OFFICE, BENGAL,

The 3rd March 1901.

C. LITTLE,

Meteorological Reporter to the Govt. of Bengal.

II.—Table showing the Monthly and Annual Average Rainfall at 254 Rainfall-recording Stations in Bengal.

Meteorological Division.	DISTRICT.	STATION.	Number of years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
SOUTH-WEST BENGAL.	BURDWAN	Kalna	25-26	0.37	1.07	1.36	2.43	5.24	9.10	11.13	11.07	6.65	3.51	0.96	0.16
		Burdwan	26	0.36	0.93	1.58	2.06	5.73	8.92	11.71	11.37	8.04	3.61	0.67	0.15
		Katwa	25-26	0.39	1.14	1.29	1.62	5.31	9.80	10.49	11.38	7.92	3.76	0.69	0.04
		Raniganj	26	0.40	1.18	0.82	1.27	3.68	9.27	13.22	13.23	7.35	3.31	0.50	0.09
		Mankur	10-11	0.54	0.92	0.96	1.30	5.16	8.88	13.61	11.18	8.84	2.28	0.70	0.09
	BIRBHUM	Suri	26	0.45	1.01	0.92	0.98	3.77	11.32	13.15	13.28	9.05	3.49	0.46	0.11
		Hetampur	20-21	0.49	0.99	0.74	1.66	3.75	11.09	13.17	12.32	9.67	3.06	0.66	0.69
		Rampur Hat	22-23	0.54	0.88	0.90	1.52	4.00	9.99	11.75	12.15	10.83	3.75	0.45	0.12
		Bolpur	10-11	0.42	0.87	1.26	1.10	5.12	10.59	12.77	10.02	9.16	3.00	0.94	0.09
		BANKURA	Bankura	26	0.34	0.94	1.19	1.34	4.41	9.96	12.68	12.89	8.03	3.82	0.52
	Vishnupur		16-17	0.33	1.12	1.35	1.50	5.48	10.69	12.22	12.13	8.95	3.16	0.58	0.13
	Mallara		15-16	0.38	0.83	0.79	0.86	3.71	10.58	13.11	12.17	6.67	3.09	0.31	0.13
	Khatra		15-16	0.34	0.86	1.30	1.09	4.39	11.72	14.08	12.47	8.79	3.77	1.03	0.26
	Indas		11-12	0.38	0.83	1.21	1.02	4.40	9.98	12.43	9.84	8.43	2.61	0.59	0.16
	Kotalpur		11-12	0.42	0.92	1.39	1.05	4.65	10.54	13.02	12.39	9.61	3.34	0.73	0.10
	Onda		11-12	0.18	0.96	0.59	0.97	3.41	8.64	10.83	12.19	9.02	2.68	0.37	0.02
	Gangajalghati		10-11	0.47	0.78	0.87	0.99	4.24	11.57	13.21	13.13	6.54	2.20	0.94	0.12
MIDNAPORE	Raipur	10-11	0.17	1.09	1.69	0.85	6.01	11.08	12.96	15.53	8.80	4.44	1.02	0.18	
	Sonamukhi	10-11	0.46	1.11	0.95	1.28	5.17	10.06	11.29	10.48	7.75	2.44	0.92	0.12	
	Contai	26	0.23	1.37	1.12	1.34	4.90	9.61	13.91	13.07	11.60	7.80	1.57	0.28	
	Tamluk	25-26	0.30	1.19	1.70	1.45	5.18	9.55	11.86	13.42	8.47	4.32	0.61	0.29	
	Midnapore	26	0.23	1.07	1.32	1.50	5.07	9.42	11.63	12.33	7.66	4.30	0.92	0.26	
	Ghatal	19-20	0.34	1.02	1.56	1.71	5.86	9.93	12.69	13.97	9.23	3.23	0.63	0.17	
	Kukrahaty	8-9	0.35	1.73	1.08	0.99	5.57	9.71	11.59	12.53	9.63	4.25	1.27	0.61	
	Garbeta	10-11	0.29	0.91	1.84	1.45	5.17	10.51	12.95	13.74	8.83	2.66	0.62	0.15	
	HOOGHLY	Serampore	24-25	0.37	1.36	1.24	2.01	5.04	9.73	12.29	11.90	8.06	4.45	0.78	0.24
		Hooghly	26	0.34	1.23	1.21	1.89	5.43	9.34	11.37	11.21	7.33	3.98	0.77	0.26
HOWRAH	Jalainabad	24-25	0.34	1.20	1.27	1.76	5.41	10.04	11.40	14.28	8.79	3.89	0.84	0.14	
	Howrah	26	0.46	1.14	1.34	1.92	5.60	10.59	11.79	11.83	8.07	4.22	0.61	0.23	
24-PARGANAS	Moheroka	20-21	0.28	1.50	1.15	1.16	5.92	9.88	12.13	12.74	8.06	3.28	0.64	0.21	
	Saugor Island	26	0.32	1.10	1.24	1.13	4.62	9.84	15.34	15.22	11.23	9.14	1.62	0.28	
	Diamond Harbour	25-26	0.40	1.05	1.41	1.75	5.43	10.22	14.39	14.17	10.21	5.03	0.93	0.22	
	Canning Town	10-11	0.41	1.28	1.65	1.43	5.82	12.07	11.39	15.00	8.75	4.94	1.08	0.06	
	Alipore (Observatory)	25-26	0.60	1.38	1.67	1.74	5.43	10.74	12.40	12.95	9.33	4.39	0.96	0.24	
	Barrackpore	25-26	0.88	1.36	1.49	1.81	5.11	10.17	11.72	11.63	7.74	3.90	0.88	0.23	
	Dum-Dum	25-26	0.46	1.19	1.46	1.87	5.69	10.65	11.38	12.34	8.99	4.59	0.85	0.22	
	Barasat	25-26	0.28	1.41	1.34	1.90	5.92	9.84	10.72	11.38	8.48	4.55	0.95	0.23	
	Basirhat	25-26	0.30	1.15	1.78	2.26	5.94	11.54	12.78	12.19	8.30	4.80	0.59	0.17	
	NADIA	Ranaghat	25-26	0.45	0.99	1.53	2.71	5.52	9.76	10.70	11.72	7.14	3.80	0.96	0.16
		Krishnanagar	26	0.30	1.23	1.23	2.38	5.76	9.33	10.62	10.64	7.31	4.32	0.94	0.08
		Chudanda	25-26	0.28	1.16	1.75	2.27	7.67	8.00	10.19	11.37	8.88	4.19	1.09	0.11
Meherpur		25-26	0.33	1.14	2.03	3.10	5.97	9.68	10.17	11.87	7.86	4.01	0.62	0.13	
MURSHIDABAD	Kushtia	25-26	0.34	1.18	1.85	3.11	7.05	10.94	10.82	10.84	9.42	4.40	0.83	0.14	
	Kandi	21-23	0.39	1.11	1.04	1.84	4.41	9.40	12.21	10.43	9.12	3.69	0.80	0.17	
	Bherampore	23-26	0.32	1.04	1.05	1.50	5.36	9.38	10.71	11.77	10.13	3.83	0.56	0.12	
	Lalbagh	18-21	0.28	0.78	0.98	1.24	5.53	8.91	11.62	11.62	9.79	4.19	0.84	0.10	
	Azimganj	23-24	0.54	0.83	0.96	1.56	5.23	9.38	11.04	11.01	9.24	4.26	0.39	0.09	
	Jangipur	22-25	0.51	0.79	0.73	1.37	4.91	9.36	10.96	10.85	10.04	3.27	0.37	0.10	
	Lalgaia	21-23	0.54	0.82	1.04	1.45	5.68	9.73	11.54	10.71	10.25	4.01	0.57	0.10	
	Akhirganj	9-10	0.66	1.05	1.37	1.94	6.30	10.42	11.99	8.59	8.79	3.27	0.67	NH	
	Patkabari	8-9	0.25	0.75	0.96	2.33	5.19	9.49	9.40	6.18	5.60	3.09	1.09	0.94	
	Dumkal	14	0.38	0.71	1.45	1.62	5.73	10.26	10.53	10.66	8.24	3.62	0.63	0.17	
	JESSORE	Narail	24-25	0.64	1.26	1.98	3.36	6.75	10.70	9.48	10.00	6.53	3.98	1.00	0.17
		Jessore	26	0.55	1.21	2.15	3.71	7.62	12.50	11.21	11.35	8.09	4.35	1.22	0.18
Jhenidah		24-26	0.28	1.27	2.12	3.39	6.79	11.80	10.16	11.32	8.58	4.48	1.03	0.12	
Magura		24-25	0.28	1.09	2.32	3.83	8.16	11.67	10.40	9.37	7.36	3.83	1.04	0.11	
KHULNA	Bangon	26	0.35	1.16	1.61	2.65	5.97	9.80	10.81	11.73	8.05	4.87	0.72	0.23	
	Saikhira	25-26	0.43	1.08	2.21	3.98	6.10	11.75	12.39	11.62	8.20	4.88	0.78	0.25	
RAJSHAHI	Bagerhat	24-25	0.56	1.25	1.79	2.85	6.79	14.09	14.49	12.24	9.11	5.37	1.95	0.21	
	Khulna	24-25	0.59	1.21	2.03	3.98	6.59	12.11	11.58	11.47	9.24	4.56	0.86	0.24	
	Boalia	26	0.41	0.84	0.93	1.69	5.25	9.91	11.59	11.01	10.38	4.11	0.31	0.07	
	Nator	25-26	0.61	0.92	1.09	2.47	7.59	10.62	12.78	11.63	11.14	4.09	0.51	0.08	
	Naogon	12-13	0.48	0.69	1.16	1.23	6.27	11.81	12.39	8.92	11.13	3.14	0.49	0.13	
	Lalpur	10-11	0.57	0.33	1.88	3.09	6.71	7.92	9.86	9.55	8.95	2.62	0.78	0.08	
	Manda	10-11	0.42	0.41	0.84	1.40	5.25	8.93	12.00	9.65	9.44	3.32	0.43	0.01	
	DINAJPUR	Mahadebpur	17-18	0.42	0.69	0.83	1.29	6.15	11.48	12.21	11.31	11.14	3.54	0.33	0.13
		Churanan	15-18	0.46	0.55	0.55	1.18	4.67	11.53	14.51	11.01	12.49	3.14	0.15	0.09
		Raiganj	19-20	0.64	0.50	0.62	1.42	5.63	10.33	15.35	18.22	11.11	5.05	0.09	0.10
Dinajpur		26	0.45	0.51	0.87	2.08	7.46	15.49	14.38	12.56	11.39	4.55	0.98	0.08	
JALPAIGURI	Balughat	13-14	0.39	0.59	0.66	1.60	5.77	11.19	12.99	9.66	10.44	3.64	0.13	0.13	
	Jalpaiguri	25-26	0.53	0.38	1.20	4.11	11.90	20.42	20.24	25.74	23.37	5.32	0.16	0.09	
	Alipore Doar	9-10	0.53	0.60	1.63	7.17	14.79	30.52	31.91	25.93	20.82	4.18	0.26	0.03	
	Pallacotta	9-11	0.59	0.49	1.25	5.62	12.66	24.28	25.64	25.49	18.60	4.26	0.21	0.01	
	Debiganj	9-10	0.73	0.60	1.00	3.89	9.71	21.23	22.52	16.80	14.35	3.93	0.13	0.03	
DARJELING	Ruxa	25-26	1.24	1.02	3.04	8.37	20.37	41.93	51.69	43.05	30.97	10.69	0.95	0.44	
	Siliguri	13-13	0.69	0.54	1.22	4.21	10.15	25.40	32.29	25.97	17.90	5.04	0.37	0.09	
	Darjeeling	25-26	0.67	0.95	1.65	4.61	8.50	23.49	32.45	26.61	17.31	3.83	0.20	0.23	
	Kalimpong	12-14	0.94	0.79	1.46	3.50	6.48	17.76	20.06	17.88	11.94	3.69	0.20	0.24	
COOCH BEHAR	Dinhat	18-17	0.53	0.48	1.70	5.15	14.04	28.02	18.88	17.67	18.89	5.08	0.12	0.15	
	Cooch Behar	24-25	0.47	0.45	1.69	6.16	15.19	33.75	26.04	22.30	20.38	5.22	0.15	0.07	
	Nikliaganj	16-17	0.45	0.55	1.28	4.25	15.06	26.90	24.06	25.19	18.85	4.71			



Division.	DISTRICT.	STATION.	Number of years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Dacca.	Dacca	Munshiganj ...	23-24	0'46	1'28	3'42	4'90	9'83	14'03	14'81	13'92	10'86	5'28	1'29	0'28	80'06
		Dacca ...	26	0'38	1'24	2'98	4'56	9'36	13'13	13'04	12'04	8'85	4'02	1'03	0'16	70'79
		Narayanganj ...	12-13	0'24	1'26	2'67	5'17	10'28	13'06	13'78	12'32	8'51	4'42	1'74	0'25	73'70
		Manikganj ...	23-24	0'48	1'30	1'91	4'26	8'85	10'31	11'03	11'19	7'26	3'09	1'10	0'10	62'38
	Mymensingh	Jaydebpur ...	10-11	0'48	1'10	2'46	4'98	9'22	12'45	13'75	13'72	7'97	3'69	1'38	0'03	71'93
		Kishorganj ...	25-26	0'53	0'94	2'58	5'33	11'86	18'39	13'51	13'97	12'48	4'91	0'81	0'24	85'55
		Atia (Tangail) ...	25-26	0'45	1'11	1'49	3'05	8'39	12'37	11'29	11'30	8'50	4'48	0'27	0'09	63'00
		Mymensingh ...	26	0'39	1'13	2'02	4'44	11'75	18'18	15'56	14'46	12'04	5'02	0'61	0'13	87'23
	Faridpur	Jamalpur ...	25-26	0'44	1'07	1'35	3'50	9'01	15'39	13'19	13'94	12'88	4'96	0'52	0'20	70'45
		Netrakona ...	13	0'19	1'08	2'86	5'38	13'00	21'75	18'74	17'81	13'39	6'18	0'87	0'15	101'31
		Subarnachali ...	10-11	0'33	0'82	1'58	3'24	7'03	11'87	11'72	10'79	9'71	3'60	1'09	0'02	62'70
		Durgapur ...	9-11	0'56	0'85	2'58	5'24	10'00	28'15	32'64	25'24	18'44	6'06	0'62	Nil	135'28
Backergunge	Diwanganj ...	10-11	0'34	0'46	1'29	3'35	11'33	17'21	12'70	11'54	10'43	4'56	0'61	Nil	74'02	
	Madaripur ...	25-26	0'54	1'03	2'63	5'60	8'63	12'53	11'01	11'72	7'68	4'59	1'00	0'18	60'03	
	Faridpur ...	26	0'36	1'49	2'60	4'20	8'74	12'58	12'21	12'23	8'05	4'09	1'18	0'11	68'54	
	Golundo ...	24-25	0'41	1'29	2'16	4'08	8'14	11'85	11'43	10'58	7'54	4'26	1'18	0'09	63'01	
Hill Tippera	Patuakhali ...	23-24	0'61	1'26	1'80	3'01	8'19	19'87	20'90	17'54	12'04	6'25	1'54	0'52	102'53	
	Pirojpur ...	25-26	0'55	1'28	1'49	2'51	7'32	15'93	15'81	13'78	10'03	5'87	1'29	0'25	76'70	
	Raisali ...	26	0'63	1'13	2'52	3'23	8'09	16'02	15'76	12'63	10'79	5'81	1'27	0'39	77'97	
	Gaunadi ...	10-11	0'21	1'34	2'62	4'46	8'24	13'05	13'18	11'80	7'35	4'73	1'58	0'12	68'70	
Tippera	Bhola ...	18-19	0'42	1'02	2'45	3'71	7'59	18'20	17'57	17'20	10'97	6'07	1'34	0'53	87'07	
	Bauphal ...	10-11	0'42	0'89	1'89	2'34	9'17	14'45	10'65	18'83	11'02	7'04	1'17	0'33	87'80	
	Agartala ...	22-26	0'58	1'05	4'07	5'91	11'43	14'43	11'39	11'76	10'05	5'08	1'34	0'33	77'62	
	Comilla ...	23-24	0'53	0'99	3'16	5'61	11'46	17'65	16'38	16'40	10'51	5'20	1'14	0'36	89'39	
Noakhali	Chandpur ...	17-18	0'44	1'13	3'13	4'93	9'94	16'28	14'70	17'95	10'55	6'13	1'11	0'36	88'05	
	Brahmanbaria ...	24-26	0'09	1'27	4'04	5'76	11'60	15'14	11'27	12'33	10'77	4'94	0'82	0'24	78'87	
	Ramchandrapur ...	10-11	0'31	0'82	2'33	4'53	8'91	11'16	12'51	10'34	7'32	4'73	1'64	0'09	65'20	
	Nasiragar ...	10-11	0'39	0'90	3'47	8'48	12'05	11'51	8'56	11'47	9'47	4'65	0'89	0'09	71'93	
Chittagong	Daukandi ...	10	0'26	0'68	2'04	3'13	8'83	12'11	11'32	9'93	6'56	3'21	1'16	Nil	59'28	
	Kasba ...	10-11	0'23	0'33	3'11	6'17	9'98	14'34	11'00	10'09	8'49	4'05	1'55	0'08	70'02	
	Laksam ...	10-11	0'30	1'06	2'54	4'48	8'70	13'83	18'83	15'34	9'19	4'19	1'33	0'14	79'73	
	Noakhali ...	26	0'47	1'02	3'40	4'92	10'31	24'19	23'74	24'99	15'77	7'70	1'61	0'60	118'22	
South Lushai Hills	Fenny ...	19-20	0'55	1'26	3'24	5'28	11'28	24'42	24'47	23'72	15'41	6'50	2'51	0'81	118'05	
	Haripur ...	10-11	0'42	0'71	2'83	3'76	12'57	21'53	32'68	31'96	17'21	10'26	1'48	0'55	138'77	
	Ramganj ...	10-11	0'42	1'18	3'63	3'76	9'76	16'00	17'73	17'72	9'53	6'47	1'44	0'20	87'74	
	Cox's Bazar ...	25-26	0'56	0'39	1'66	2'55	11'33	31'57	40'51	27'37	14'34	7'95	2'21	0'34	140'78	
Patna	Chittagong ...	26	0'40	0'81	2'52	3'85	10'48	22'69	23'20	19'76	12'91	6'24	1'53	0'77	105'25	
	Kutubdia ...	10-11	0'68	0'37	2'01	2'98	12'13	21'09	33'71	24'67	10'88	7'51	2'88	0'38	119'29	
	Satkania ...	9-11	0'37	0'23	1'94	3'06	11'00	19'98	26'56	16'73	10'18	6'09	1'91	0'27	98'40	
	Kodala ...	12-13	0'35	0'71	3'62	4'60	12'70	17'20	17'92	17'35	10'79	5'93	1'89	0'84	93'81	
Gaya	Rangamati ...	26	0'51	1'23	3'55	4'03	11'38	17'87	18'58	18'03	11'50	6'54	1'89	0'56	95'58	
	Patna ...	26	0'35	0'53	0'38	0'26	1'97	7'34	11'75	11'30	7'40	3'20	0'17	0'13	45'14	
	Dinapore ...	25-26	0'62	0'44	0'37	0'20	1'64	6'95	12'09	11'83	7'25	3'33	0'23	0'13	45'08	
	Bihar ...	25-26	0'87	0'71	0'37	0'23	2'10	6'81	12'05	11'42	6'47	2'61	0'21	0'10	44'65	
Shahabad	Barh ...	25-26	0'55	0'57	0'36	0'15	2'08	5'73	12'12	10'21	7'55	2'55	0'21	0'09	42'17	
	Bikram ...	9-11	0'62	0'74	0'44	0'35	2'06	6'77	12'91	11'21	6'78	3'54	0'41	0'02	45'85	
	Hilsa ...	9-10	0'76	0'76	0'59	0'35	2'13	8'29	11'39	11'64	5'09	2'42	0'07	0'01	44'10	
	Aurangabad ...	25-26	0'60	0'47	0'43	0'19	1'38	5'49	12'75	13'43	6'80	2'47	0'25	0'25	44'51	
Saran	Gaya ...	26	0'58	0'67	0'45	0'26	1'33	6'36	13'10	12'50	6'89	2'27	0'38	0'18	45'15	
	Nawadah ...	25-26	0'66	0'61	0'50	0'23	1'76	6'28	11'71	11'50	6'43	2'21	0'19	0'17	42'22	
	Jahannabad ...	25	0'70	0'56	0'37	0'15	1'46	5'64	12'00	12'00	6'87	2'57	0'27	0'15	43'24	
	Arwal ...	10-11	0'79	0'55	0'47	0'08	1'88	4'69	13'74	10'21	6'33	2'54	0'19	0'27	42'64	
Champaran	Daudnagar ...	10-11	0'55	0'49	0'17	0'03	1'15	4'86	11'72	11'31	6'07	1'63	0'26	0'26	38'50	
	Sherghati ...	9-11	0'72	0'73	0'67	0'01	0'82	4'78	9'66	11'45	7'40	3'09	0'10	0'06	36'58	
	Rajauli ...	8-11	0'59	0'74	0'64	0'36	1'70	6'14	11'56	11'18	5'07	2'33	0'34	0'17	41'92	
	Pakri Barawan ...	10-11	0'57	0'51	0'62	0'06	1'33	5'95	12'17	12'38	5'61	1'41	0'10	0'11	41'01	
Muzaffarpur	Buxar ...	26	0'72	0'50	0'32	0'16	0'91	5'20	11'68	11'33	7'17	3'25	0'40	0'18	41'89	
	Dohri ...	12-13	0'62	0'44	0'69	0'08	0'98	5'91	11'73	12'62	6'81	2'63	0'28	0'32	43'11	
	Bhabhua ...	25-26	0'66	0'67	0'52	0'10	0'97	5'19	12'22	12'40	6'91	2'56	0'60	0'25	43'21	
	Sasaram ...	25-26	0'51	0'52	0'56	0'15	1'05	5'30	11'06	12'27	6'76	3'06	0'28	0'21	41'62	
Shahabad	Arrah ...	26	0'73	0'69	0'40	0'23	1'63	6'14	12'11	11'31	7'19	2'99	0'20	0'10	45'88	
	Mohanea ...	10-11	0'75	0'54	0'14	0'36	0'61	5'06	11'31	13'64	6'13	2'39	0'31	0'21	41'43	
	Gopalganj ...	16-18	0'69	0'53	0'25	0'17	2'26	7'27	12'43	10'77	7'28	3'98	0'18	0'11	43'92	
	Siwan ...	25-26	0'80	0'55	0'27	0'21	1'69	7'28	11'94	11'04	8'57	3'41	0'22	0'10	46'47	
Saran	Chapra ...	26	0'68	0'46	0'37	0'22	1'45	6'28	12'06	10'37	6'94	3'08	0'28	0'14	42'43	
	Mothari ...	23-24	0'71	0'48	0'41	0'70	2'81	9'18	13'36	12'19	9'45	6'39	0'13	0'14	42'08	
	Bettiah ...	24-25	0'68	0'51	0'40	0'58	2'65	9'11	13'83	13'30	9'58	3'39	0'05	0'17	63'23	
	Begaba ...	10-11	0'80	0'54	0'57	0'48	3'26	13'14	16'41	15'80	10'90	3'73	0'21	0'16	60'22	
Muzaffarpur	Burnurwa ...	10-11	0'75	0'41	0'40	0'31	1'89	9'18	11'42	12'40	7'98	2'71	0'11	0'18	47'93	
	Sitamarhi ...	25-26	0'67	0'41	0'56	1'07	2'55	8'67	12'62	10'13	8'97	2'80	0'68	0'08	48'61	
	Muzaffarpur ...	25-26	0'34	0'48	0'40	0'48	2'35	7'65	12'46	10'28	8'92	3'11	0'17	0'10	47'24	
	Hajipur ...	24-25	0'75	0'61	0'49	0'22	1'82	6'86	12'19	10'42	7'48	3'53	0'17	0'08	44'62	
Darrhanga	Para ...	10-11	0'57	0'46	0'32	0'43	1'95</									



Meteorological division.	District.	Station.	Number of years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Bihar—coastal.	Bhagalpur—coastal.	Malda ... ..	26	0.53	0.61	0.90	1.12	4.08	10.34	11.95	10.35	10.85	4.42	0.20	0.13	52.75
		Chanchal ... ..	18-22	0.59	0.73	0.82	1.98	4.57	11.57	14.74	12.08	10.50	2.72	0.19	0.03	52.75
		Gajol ... ..	10-11	0.49	0.46	0.63	1.21	3.85	7.97	14.98	12.10	12.78	2.61	0.10	0.02	57.11
		Sibganj ... ..	10-11	0.71	0.70	0.67	0.84	6.25	9.03	11.93	10.17	10.02	4.05	0.61	0.05	62.02
		Rajmahal ... ..	24-25	0.25	0.41	0.39	1.16	4.63	9.76	12.70	10.19	11.13	3.26	0.12	0.04	54.96
	Sonthal Parganas.	Godda ... ..	23-24	0.47	0.67	0.53	0.46	3.61	7.53	12.23	10.78	8.87	2.87	0.31	0.09	48.76
		Pakaur ... ..	19-20	0.43	0.52	0.64	0.74	4.79	10.85	13.59	12.00	12.28	4.99	0.45	0.08	61.11
		Naya Dumka ... ..	24-25	0.60	0.79	0.85	0.96	3.59	8.22	13.71	13.63	9.53	4.22	0.37	0.17	57.94
		Deochur ... ..	26	0.47	0.72	0.71	0.92	2.85	8.33	13.90	12.12	8.23	3.81	0.24	0.13	52.40
		Jamtara ... ..	20-23	0.46	0.56	0.95	0.66	3.49	9.36	14.49	12.72	7.99	3.87	0.59	0.17	52.11
Orissa.	CUTTACK.	Naniha ... ..	10-11	0.52	0.59	0.94	0.48	2.56	6.39	11.58	8.34	6.45	1.96	0.31	0.11	46.22
		Jagatsingpur ... ..	23-25	0.38	0.70	1.07	0.51	3.69	7.75	11.66	11.33	10.18	6.54	2.09	0.28	56.78
		Barki ... ..	13	0.26	0.05	1.53	0.43	2.91	10.25	10.98	10.84	9.79	4.89	1.81	0.54	54.75
		Cuttack ... ..	26	0.32	0.43	1.41	1.15	4.41	11.53	12.91	12.37	11.07	5.64	1.73	0.25	56.75
		False Point ... ..	25-26	0.57	0.86	0.93	1.77	4.83	9.37	13.41	13.56	11.56	9.19	3.23	0.59	62.62
	BALASORE.	Kendrapara ... ..	25-26	0.39	0.88	0.62	1.10	4.99	9.40	11.88	12.71	10.95	6.09	2.07	0.35	62.70
		Jajpur ... ..	23-25	0.37	1.08	1.23	1.67	5.47	9.80	12.76	11.50	9.80	5.07	1.27	0.40	60.11
		Dharmasala ... ..	10-11	0.42	0.65	1.53	1.10	6.75	10.43	10.57	12.72	9.95	4.75	2.08	0.04	60.11
		Salipore ... ..	9-11	0.24	0.41	1.09	0.86	4.58	10.83	9.99	13.69	9.72	4.68	2.43	0.13	58.11
		Akhyapada ... ..	11-12	0.38	0.67	1.73	1.47	4.71	9.15	10.05	12.90	10.14	3.90	1.69	0.12	57.96
CHOTA NAAGPUR.	CHHOTA NAGPUR.	Chandbali ... ..	23-23	0.41	0.97	1.14	1.07	5.38	7.72	11.78	11.47	11.36	5.76	2.24	0.41	59.96
		Bhadrak ... ..	25-26	0.36	1.23	1.52	1.96	5.63	9.38	11.92	11.00	10.44	4.92	1.38	0.28	62.96
		Soro ... ..	23-23	0.23	1.00	1.67	1.74	5.65	8.02	11.23	10.44	10.88	5.12	1.17	0.09	62.96
		Bellare ... ..	26	0.39	1.31	1.45	2.27	5.36	9.07	13.04	11.99	12.95	6.74	1.32	0.28	67.71
		Jellsore ... ..	23-25	0.61	1.10	1.23	1.40	4.18	8.63	13.60	10.71	11.16	4.47	0.72	0.12	67.71
	PURI.	Barpada ... ..	17	0.29	0.89	1.49	1.43	4.93	10.82	13.02	11.96	11.63	4.60	1.08	0.18	62.71
		Puri ... ..	26	0.28	0.78	0.61	0.45	3.08	8.06	9.80	10.38	10.36	8.90	3.48	0.50	59.96
		Khurda ... ..	25-26	0.29	0.59	1.18	0.55	3.43	9.84	12.83	12.84	10.92	6.69	2.04	0.42	61.21
		Bhanpur ... ..	16-17	0.33	1.31	1.13	0.74	2.34	7.93	10.61	11.84	10.16	6.55	2.51	0.84	60.96
		Gop ... ..	9-11	0.25	0.51	0.62	0.11	4.40	7.81	10.53	12.06	11.65	6.92	5.08	0.24	60.96
	HAZARIBAGH.	Pip i ... ..	9-10	0.33	0.38	0.82	0.20	3.56	8.17	10.92	13.58	10.59	5.60	2.06	0.23	59.96
		Pachamba (Guridih) ... ..	23-26	0.45	0.82	0.74	0.63	2.59	8.80	12.70	12.41	8.42	3.25	0.23	0.13	51.71
		Hazaribagh ... ..	25-26	0.56	0.82	0.75	0.41	2.26	7.63	14.16	13.11	8.76	3.41	0.29	0.22	52.71
		Barhi ... ..	10-11	0.79	0.75	0.83	0.34	2.04	5.93	13.21	13.35	7.79	3.16	0.23	0.21	46.96
		Chitra ... ..	10-11	0.73	1.16	0.82	0.14	3.57	6.50	16.20	12.50	9.12	2.91	0.29	0.23	57.71
CHOTA NAAGPUR.	LOHARDAGA.	Karandeha ... ..	10-11	0.96	0.99	1.17	0.56	2.63	8.65	15.37	14.21	8.46	3.11	0.48	0.11	57.71
		Rangar ... ..	9-11	0.44	0.90	0.65	0.20	3.14	7.97	14.61	15.14	8.61	4.83	0.79	0.21	52.71
		Lohardaga ... ..	12-13	0.74	0.56	1.02	0.32	2.01	8.13	12.89	13.09	9.45	2.68	0.49	0.27	51.71
		Rauchi ... ..	25-26	0.82	1.21	1.38	0.64	2.89	5.48	14.30	13.84	9.62	2.95	0.43	0.21	59.96
		Silli ... ..	8-11	0.60	0.16	1.05	0.54	3.50	7.73	13.71	14.08	7.22	1.74	0.33	0.21	59.96
	PALAMAU.	Singra ... ..	13-15	1.06	1.20	0.89	0.28	0.82	9.57	17.61	21.99	7.40	1.75	0.70	0.29	63.96
		Jashpur ... ..	13-14	0.78	0.96	1.19	0.29	1.75	11.88	16.24	16.01	10.59	4.23	0.53	0.33	62.71
		Gangpur ... ..	13-14	0.39	0.96	1.04	0.73	1.03	9.66	16.74	15.62	8.68	2.44	0.86	0.38	59.96
		Palamau (Daitonganj) ... ..	25-26	0.72	0.49	0.70	0.24	1.15	6.03	12.92	13.36	7.79	2.50	0.37	0.21	46.96
		Batumath ... ..	10-11	0.37	0.73	0.69	0.22	1.18	7.88	15.19	14.87	9.43	3.07	0.43	0.39	52.71
CHOTA NAAGPUR.	MANBHUM.	Hussainabad ... ..	8-11	0.63	0.47	0.36	0.10	1.13	6.14	15.61	13.13	7.20	2.49	0.24	0.26	47.71
		Garchwa ... ..	10-11	1.06	0.55	0.74	0.07	1.43	5.72	12.86	15.84	6.86	3.05	0.21	0.21	46.96
		Purulia ... ..	25-26	0.46	1.14	1.17	0.94	3.49	9.53	13.10	13.15	8.04	2.83	0.33	0.17	54.71
		Gobindpur ... ..	20-26	0.60	1.02	0.89	0.69	2.71	9.44	14.68	11.96	7.42	3.26	0.27	0.15	53.96
		Raghothathpur ... ..	10-11	0.52	0.17	0.89	0.63	3.77	7.91	14.39	13.90	7.74	1.94	0.68	0.11	52.96
	SINGBHM.	Manabhum ... ..	10-11	0.34	0.85	1.05	1.25	3.02	9.32	12.68	11.40	6.89	2.15	0.74	0.18	46.96
		Jhalda ... ..	9-11	0.40	0.89	1.57	1.29	2.71	9.24	12.25	15.66	7.65	2.75	0.35	0.20	54.71
		Chas ... ..	9-11	0.61	0.55	0.90	0.99	3.09	8.11	13.18	13.43	8.97	2.81	0.46	0.15	52.96
		Chalibassa ... ..	25-26	0.58	0.97	1.27	0.77	3.86	8.53	13.48	13.04	8.05	2.72	0.45	0.28	54.96
		Chakradharpur ... ..	8-11	0.35	0.95	0.58	0.76	3.15	7.94	14.27	11.27	5.51	2.83	0.60	0.29	47.96
CHOTA NAAGPUR.	ORISSA TRIBU-TARY MAHAIS.	Ghatila ... ..	10-11	0.59	1.03	1.28	0.88	4.13	9.71	13.91	14.46	8.61	3.41	0.83	0.28	52.96
		Baharagura ... ..	10-11	0.12	0.80	1.41	1.29	4.41	10.53	11.80	10.88	9.27	2.92	0.75	0.25	54.96
		Keonjhar ... ..	13-14	0.18	0.62	0.50	0.82	2.13	5.35	9.67	5.89	6.36	2.40	1.06	0.21	38.96
		Talchar ... ..	14-15	0.22	0.90	1.34	0.78	2.44	9.27	14.01	10.43	8.85	2.74	1.28	0.24	52.96
		Narsingpur ... ..	9-10	0.26	0.55	0.90	0.43	1.92	9.83	9.58	8.83	8.41	4.17	1.64	0.07	46.96
	ANGUL.	Angul ... ..	14-15	0.33	0.94	1.38	0.94	2.37	10.41	11.31	10.16	9.12	4.56	1.34	0.41	52.96
		Dhenkanal ... ..	14-15	0.32	0.74	1.28	0.44	2.93	10.64	13.49	12.17	10.46	4.13	1.40	0.34	52.96
		Rishpara ... ..	14-15	0.24	0.31	0.84	0.59	1.87	10.37	14.25	10.34	10.98	4.96	1.08	0.32	52.96
		Kunjabongarh ... ..	13-15	0.24	0.29	1.36	1.48	3.37	9.03	11.75	9.66	10.79	5.50	1.43	0.13	52.96
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

METEOROLOGICAL OFFICE, BENGAL;  
The 3rd March 1901.

C. LITTLE,  
Meteorological Reporter to the Govt. of Bengal.

III.—Comparison Table of the Rainfall of 1900 at 254 Rainfall-recording Stations in Bengal with the Averages of previous years.

Meteorological Division.	DISTRICT.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
SOUTH-WEST BENGAL.	BURDWAN	Kalna	-0.37	+3.34	-0.98	+1.65	+2.26	-1.10	-2.92	+1.12	+11.90	-2.98	-0.96	+0.05	+11.01
		Burdwan	-0.28	+1.85	-1.33	+1.38	+0.30	-0.88	-3.92	-2.58	+3.51	-3.40	-0.67	+0.05	-0.07
		Katwa	-0.11	+0.95	-1.29	+0.80	+0.86	-0.33	-0.16	-0.44	+11.25	-3.01	-0.69	-0.08	+7.76
		Kaniganj	+0.19	-1.72	-0.82	+4.79	+0.99	-4.80	-7.18	-3.52	+9.16	-2.62	-0.60	+0.01	-5.82
		Mankur	-0.54	-0.72	-0.81	+3.33	+0.99	-0.56	-10.18	+0.53	+15.10	-1.66	-0.70	-0.09	+4.50
	BIRBHUM	Suri	+0.10	-0.63	-0.92	+1.10	+1.91	-5.78	-3.55	-3.91	+9.20	-2.52	-0.46	-0.11	-3.97
		Hetampur	0	+0.47	-0.74	+0.71	+0.12	-5.65	-3.62	-3.82	+14.52	-2.35	-0.66	-0.07	+0.21
		Rampur Hat	+0.39	+0.85	-0.90	-0.54	-1.50	-2.41	-0.07	-2.97	+7.98	-3.61	-0.45	-0.13	-2.36
		Bolpur	+0.02	-0.11	-1.26	+1.58	+1.55	-3.51	-6.18	-2.79	+10.59	-2.65	-0.94	-0.09	-3.79
		BANKURA	Bankura	-0.18	+0.35	-1.14	+3.38	+1.24	-4.29	-7.67	-2.17	+10.60	-3.57	-0.53	+0.02
	Vishnupur		-0.14	+1.29	-0.06	+1.31	-0.62	-2.90	-6.83	-1.99	+9.52	-2.41	-0.58	+0.33	-2.38
	Malina		+0.04	-0.71	-0.79	+3.15	+0.35	-6.14	-10.25	-3.03	+7.62	-1.85	-0.31	+0.09	-11.33
	Khatra		-0.12	0	-0.77	+0.29	-0.97	-7.54	-8.42	-4.77	+15.35	-2.47	-1.03	-0.09	-10.66
	Indas		-0.28	+1.29	-1.16	+1.38	-2.10	-0.79	-5.02	-2.88	+11.16	-1.90	-0.59	-0.10	-6.90
	Kotalpur		-0.42	+1.73	-0.91	+4.54	-2.14	-3.73	-3.94	-5.34	+5.32	-2.17	-0.73	+0.10	-7.60
	Onda		+0.01	-0.16	-0.34	+0.92	+2.42	-3.09	-7.59	-3.79	+10.11	-2.08	-0.37	+0.99	-2.99
	Gangajalghatty		0	-0.63	-0.87	+5.02	-1.69	-6.50	-7.77	-1.63	+2.73	-1.81	-0.94	+0.07	-13.92
	MIDNAPORE	Raipur	-0.13	+0.22	+0.40	+2.69	+0.41	-7.48	-6.51	-7.41	+14.78	-4.03	-1.02	-0.15	-8.41
		Souamukhi	+0.14	-0.38	-0.95	+3.41	-0.78	-1.61	-5.97	-1.77	+10.16	-0.98	-0.92	-0.12	+0.05
	HOOGHLY	Contai	-0.21	-1.23	-0.73	+0.48	+2.44	+1.83	-3.62	+4.85	+15.70	-4.90	-1.57	+0.94	+14.28
		Familuk	-0.30	+0.68	-1.30	+1.22	+4.71	-0.93	-8.39	-2.28	+17.35	-3.13	-0.61	-0.16	+7.96
	HOWRAH	Midnapore	-0.47	-0.75	+0.30	+0.42	+0.61	-3.10	+3.90	+2.41	+14.62	-2.56	-0.62	+0.33	+16.30
		Ghatol	-0.34	+0.40	+0.03	+2.33	+1.78	-3.24	-6.33	-2.61	+8.85	-3.68	-0.65	-0.04	-8.60
	24-PARGANAS	Kusrahatty	-0.35	-1.53	-0.95	+0.93	+1.78	-3.49	-4.48	-0.12	+27.46	-1.01	-1.27	-0.01	+16.96
		Garihata	-0.09	+1.72	-1.39	+3.02	-2.46	-4.72	+0.68	-0.97	+6.25	-0.36	-0.62	+0.20	-1.76
	NADIA	Serampore	-0.37	-0.40	-0.90	+1.86	-1.30	+0.07	-2.19	+7.81	+38.40	-2.73	-0.78	+0.01	+39.55
Hooghly		-0.26	-0.68	-0.74	+1.11	-1.00	+0.30	-0.70	+4.93	+24.64	-3.52	-0.77	-0.26	+17.05	
Jalananad		-0.24	-0.43	-1.18	+1.02	+0.70	-3.59	-6.80	-8.19	+6.39	-3.80	-0.54	+0.17	-16.40	
Howrah		-0.46	-0.34	-1.17	+1.30	-1.56	-1.18	-5.05	+4.45	+34.08	-3.32	-0.61	-0.12	+26.02	
Mohesra		-0.21	-0.66	-0.39	+0.96	-1.02	+0.50	-8.95	+1.17	+19.82	+2.05	-0.64	+0.24	+12.92	
MURSHIDABAD	Saugor Island	-0.32	-0.68	-0.84	+0.10	+0.15	+4.70	+1.03	+0.52	+18.64	-2.79	-1.49	-0.21	+18.33	
	Diamond Harbour	-0.49	-1.29	-1.30	+0.28	+1.30	+1.59	+1.66	-3.19	+34.05	-0.76	-0.93	-0.22	+30.91	
	Canning Town	-0.41	-0.56	-1.62	-0.26	+0.93	-1.78	+5.11	-3.95	+18.92	-2.98	-1.11	-0.06	+12.33	
	Alipore Obay.	-0.60	-0.63	-1.45	+1.91	-1.26	-0.59	-3.78	+3.33	+36.22	-3.67	-0.66	-0.19	+27.33	
	Barrackpore	-0.38	-0.21	-1.01	+2.28	-0.22	-0.70	-1.85	+6.5	+32.82	-1.69	-0.88	+0.05	+24.03	
	Dum-Dum	-0.13	+1.04	-1.20	+1.48	+1.07	+0.76	-2.04	+3.65	+3.78	-2.53	-0.45	-0.22	+88.71	
	Barasat	-0.46	+0.87	-0.78	-0.29	-1.99	-2.86	-4.61	+20.71	+37.06	+0.67	-0.65	-0.33	+47.24	
	Basirhat	-0.39	-0.03	-1.30	-1.18	-2.87	+1.62	-1.48	+3.89	+28.61	-3.32	-0.69	-0.17	+22.71	
JESSORE	Ranaghat	-0.45	+4.23	-0.67	+0.61	+2.53	-2.93	-4.31	-1.95	+19.54	-3.75	-0.96	-0.08	+12.51	
	Krishnagar	-0.28	+0.04	-1.08	+1.13	-1.09	-4.37	-1.95	-0.84	+22.01	-3.52	-0.94	-0.07	+9.04	
	Choudanga	-0.21	+1.51	-1.75	+1.63	-3.31	+1.39	-4.01	-3.01	+7.65	-3.68	-1.09	-0.11	-4.99	
	Meherpur	-0.06	+0.66	-1.85	+3.23	+1.96	+1.44	-1.00	-2.96	+10.27	-1.55	-0.62	-0.15	+4.28	
	Kushtia	-0.20	+0.20	-1.85	-0.44	-1.12	-0.02	-1.79	-3.93	+10.68	-3.12	-0.83	-0.14	-3.16	
MURSHIDABAD	Kandi	-0.12	-0.32	-0.99	-0.67	-1.22	-1.54	+1.25	-0.78	+11.55	-1.83	-0.80	-0.17	+4.26	
	Berhampore	+0.43	+0.36	-0.33	+0.27	-3.49	-2.54	+6.10	-2.15	+11.83	-3.34	-0.56	-0.12	+6.26	
	Lalbag	+0.34	-0.20	-0.88	+1.54	-4.08	-3.31	+4.34	+0.86	+7.28	-3.79	-0.54	-0.10	+1.06	
	Azinganj	+0.14	-0.50	-0.96	+0.65	-3.25	+1.14	+2.55	-1.16	+4.29	-3.24	-0.39	-0.09	-0.51	
	Jangipur	+0.42	-0.20	-0.64	-0.69	-1.18	+0.34	+3.35	-0.47	+2.45	-3.68	-0.37	-0.10	-4.17	
	Lakolia	+0.66	+1.28	-1.04	+1.85	-3.98	-1.03	-1.09	+4.51	+8.65	-1.21	-0.57	-0.10	-1.19	
	Alkhanj	+0.68	0	-1.37	-0.96	-4.91	+0.64	-0.55	-4.13	+3.41	-2.36	-0.67	0	-10.45	
	Patikubari	-0.05	+0.15	-0.96	-1.43	-4.39	-2.39	-4.30	-2.68	+10.90	-3.09	-1.69	-0.04	-0.37	
JESSORE	Dumkal	+0.17	+0.28	-0.95	+2.35	-2.28	+3.57	+3.64	-4.66	+4.62	-3.37	-0.63	-0.17	+0.37	
	Narail	-0.62	+3.29	-1.28	+0.15	+0.68	-1.62	+0.94	+3.96	+17.44	-0.73	-1.06	-0.17	+20.04	
	Jessore	-0.55	+4.77	-0.95	-1.80	-0.44	+3.10	-1.04	-1.75	+13.97	+1.41	-1.20	-0.04	+15.77	
	Jhenidah	-0.26	+0.25	-3.91	-1.44	-2.16	+4.88	+1.59	-5.34	+12.28	-2.11	-1.04	-0.12	+6.32	
	Magra	-0.28	+1.74	-2.67	+0.72	-0.98	-3.55	+3.77	-0.27	+11.95	-2.82	-1.04	-0.11	+6.66	
KHULNA	Bangon	-0.30	+3.08	-1.32	-0.59	-0.93	-0.01	-1.19	-2.78	+29.46	-1.13	-0.72	-0.25	+25.29	
	Sathira	-0.43	+0.61	-2.21	-1.08	+1.31	+0.53	-0.32	-1.31	+28.29	-0.69	-0.78	-0.25	+23.57	
	Bagerhat	-0.56	+1.61	-0.97	-1.02	+2.90	+6.57	+4.94	-2.23	+26.75	-3.12	-0.89	-0.22	+26.58	
	Kiulna	-0.50	+1.81	-1.86	-0.66	+0.73	+0.58	+2.01	-1.21	+11.40	-6.11	-0.86	-0.24	+8.30	
	RAJSHAH	Boulia	+0.41	+0.16	-0.83	-0.72	-2.67	-0.37	+1.76	-1.03	+4.12	-1.51	-0.31	-0.07	-1.96
Nator		-0.07	-0.58	+1.44	-0.45	-3.42	+1.11	+3.01	-3.46	+1.04	-3.84	-0.61	-0.06	-4.33	
Nangson		+0.49	-0.79	-1.16	-0.79	-4.48	+3.96	+2.76	-2.37	-5.92	-2.82	-0.49	-0.13	-8.23	
Lalpur		-0.03	-0.18	-1.48	-1.03	-3.46	+2.29	-0.39	+1.72	+6.11	-2.7	-0.72	-0.03	+6.55	
Munda		+0.69	+0.69	-0.60	-0.76	-1.69	+3.37	-4.90	-5.73	-3.69	-1.79	-0.43	-0.01	-14.04	
DINAJPUR	Mahadebpur	+0.53	-0.16	-0.56	+0.46	-3.70	+1.23	+4.05	-0.62	-3.71	-2.53	-0.33	-0.13	-12.12	
	Churaman	+0.29	+0.73	-0.32	-0.35	+1.94	+2.32	+1.45	-2.40	+4.77	-2.63	-0.18	-0.69	+5.07	
	Raganj	-0.29	-0.16	-0.57	-1.44	+0.67	+1.04	+1.99	-0.25	+6.22	-1.27	-0.99	-0.10	+13.54	
	Dinajpur	-0.29	+1.32	-1.53	+0.78	+8.73	+6.38	+1.98	+3.79	+4.91	-0.08	+0.10	+0.13	+16.13	
	Balughat	+0.51	-0.02	-0.66	+0.24	-2.06	+2.45	-1.24	-5.08	-6.40	-2.36	-0.13	-0.13	-13.43	
JALPAIGURI	Jalpaiguri	-0.51	-0.31	-0.75	-3.77	+5.59	-4.24	+4.37	-13.47	-6.01	-5.02	-0.16	-0.09	-24.37	
	Alipour Doar	-0.58	-0.14	+0.84	+0.33	-3.14	-7.97	+3.03	-14.31	-10.72	-3.72	-0.36	-0.02	-36.76	
	Paikoota	-0.59	-0.41	-0.82	-1.42	-3.93	-10.08	-5.76	-16.42	-10.54	-8.64	-6.21	-0.61	-61.45	
DARJEELING	Debiganj	-0.73	+1.65	-0.25	-3.02	-3.41	-6.88	-4.82	-10.58	-4.15	-1.71	-0.12	-0.03	-34.40	
	Ruxa	-1.03	-0.43	-1.15	+0.71	-9.58	-19.41	+7.29	-14.66	-23.15	-7.78	-0.93	-0.44	-6.0	
	Siliguri	-0.32	-0.85	-0.93	-0.45	-6.55	+1.55	-12.50	+2.22	-3.67	-0.37	-0.06	-0.22	-22.96	
	Darjeeling	+0.23	-0.51	+0.26	-1.21	-3.67	+0.41	+0.34	-7.43	-2.22	-6.49	-0.39	+0.12	-13.57	
	Kalimpong	-0.12	-0.79	+0.34	-2.50	-2.87	+2.37	-2.92	-1.80	-3.76	-2.92	-0.30	-0.09	-15.36	
COOCH BEHAR	Dinhat	-0.55	-0.19	-0.26	-3.94	+1.86	-0.73	+7.67	-13.04	-7.42	-2.66	-0.12	-0.15	-26.57	
	Cooch Behar	-0.47	-0.30	-0.91	+0.04	-13.94	+1.82	-16.62	-0.17	-4.05	-0.15	-0.07	-0.10	-30.12	
	Mekliganj	-0.45	-0.30	+0.37	-3.28	-2.66	-3.79	+6.33	-18.14	-10.20	-6.87	-0.05	-0.19	-33.16	
RANGPUR	Mathabhanga	-0.28	+0.05	+1.05	-1.76	-6.05	-9.49	-3.62	-21.15	-0.66	-4.70	-0.29	-0.69	-28.44	
	Bhawaniganj (Gai-banda)	+0.25	+0.62	-0.73	-0.43	-0.95	+4.96	+5.51	-6.27	-7.23	-3.16	-0.19	-0.12	-6.91	
	Rangpur	-0.61	+0.30	-0.98	-3.11	-1.63	+6.38.								



Meteorological Division.	DISTRICT.	STATION.	Month.												TOTAL.
			January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
EAST BENGAL	Dacca.	Munshiganj	-0.45	+0.88	-2.16	-2.76	-4.53	-3.22	-1.75	-0.14	-4.40	-5.20	-1.19	-0.28	-20.21
		Dacca	-0.38	+0.71	-0.78	-1.91	-5.63	-3.39	-3.14	-4.33	-2.84	-3.01	-0.93	-0.18	-19.31
		Narayanganj	-0.24	+1.37	-0.49	-2.74	-5.48	-3.81	-2.74	-2.25	-3.12	-3.90	-1.74	-0.25	-25.19
		Manikganj	-0.48	-0.27	+0.69	-0.09	-4.29	+6.39	+2.36	-2.10	-0.62	-3.01	-1.10	-0.68	-2.60
		Jaydebpur	-0.48	+1.15	-2.31	-1.11	-1.45	-0.33	-2.17	-6.51	-5.54	-1.39	-1.35	-0.03	-10.94
	MYMENSINGH	Kishoreganj	-0.46	+1.42	+0.81	+3.30	-5.76	+0.35	+13.03	-6.86	-1.54	-2.41	-0.78	-0.24	+1.74
		Atis (Tangail)	-0.31	-0.47	-0.79	+1.28	-4.03	-0.25	-0.86	-3.77	-3.39	-2.36	-0.57	-0.09	-17.52
		Mymensingh	-0.15	+0.80	+8.65	+1.69	-3.54	+2.63	+24.30	-0.27	-2.68	-3.80	-0.61	-0.13	+30.99
		Jasralpur	-0.34	+0.43	+2.48	+1.77	-4.71	+0.90	+0.79	-10.58	-8.00	-4.16	-0.53	-0.20	-4.94
		Netrakona	-0.12	+0.35	+5.50	-2.63	-6.34	+10.46	+0.61	-1.81	+1.40	-3.78	-0.87	-0.15	+6.60
CHITTAGONG	PARADIPUR	Subarnakhal	-0.33	-0.82	-0.58	-0.84	-3.25	+2.62	+2.74	-1.70	-3.53	-2.00	-1.09	-0.02	-14.43
		Durgapur	-0.26	-0.65	+0.32	+1.31	+2.85	+8.05	-15.74	-14.14	-4.54	-5.22	-0.32	0	-20.94
		Diwanganj	+0.26	+0.43	-1.07	+1.12	-1.46	+1.63	+15.45	-0.89	-8.13	-2.36	-0.61	0	+4.37
		Madaripur	-0.54	+1.06	-0.17	-0.70	-4.12	-6.28	-3.88	-2.32	+7.34	-3.59	-1.00	+0.18	-14.10
		Faridpur	-0.39	+0.76	-1.31	-1.63	-0.37	-1.46	+2.27	-0.73	+4.63	+0.24	-0.88	-0.11	+1.35
	BACKERGANJ	Goalundo	-0.30	+0.97	-1.42	-1.27	-2.22	-4.74	+1.18	-1.32	+3.40	-0.86	-1.18	-0.09	-7.73
		Patonkhali	-0.61	+1.21	-1.80	+0.76	-5.31	-5.13	-7.57	-1.41	+16.95	-4.63	+0.53	-0.52	-7.67
		Hirojpur	-0.35	+1.49	-1.16	-0.15	-0.12	-3.29	+1.78	-1.61	+15.81	-4.39	-1.10	-0.25	+7.79
		Barijal	-0.61	-0.75	-2.30	+0.20	-4.61	+2.45	+4.12	+1.53	+14.43	-2.34	-1.19	-0.30	+10.81
		Gaurnadi	-0.21	+0.04	-2.32	-0.13	-2.00	+1.00	+4.91	+3.04	+0.78	-3.65	-1.47	-0.12	+6.67
CHITTAGONG	HILL TIPPERA	Bhaui	-0.42	+0.03	-1.39	-0.55	-2.99	+4.01	+3.74	-2.83	+7.80	-1.19	-1.06	-0.33	-5.72
		Baughal	-0.48	+1.33	-1.53	-0.87	-2.35	+9.11	+4.22	+0.45	+21.29	-4.77	+0.11	-0.23	+25.99
		Agartala	-0.58	+8.38	+2.13	-2.27	-5.00	+3.79	+7.74	-0.36	-4.60	-3.98	-1.34	-0.33	-6.68
		Comilla	-0.23	+1.08	-0.43	-0.92	-5.65	+2.91	+7.41	-6.90	-5.47	-2.11	-1.12	-0.76	-11.29
		Chandpur	-0.44	+1.37	-1.37	-0.83	-5.38	-1.63	-2.75	-3.74	+0.75	-5.13	-0.95	-1.34	-33.49
	TIPPERA	Brahmanbaria	-0.61	+1.15	+3.92	+0.11	-5.92	+2.79	+16.13	-7.76	-6.08	-2.09	-0.70	-0.24	+0.60
		Ramchandrapur	-0.31	+0.24	-6.63	-3.01	-5.28	+1.87	+1.66	-5.76	-5.93	-4.52	-1.64	-0.00	-23.40
		Nasiragar	-0.27	+0.68	+4.02	+9.33	-6.49	+3.59	+18.13	-1.84	-4.31	-4.75	-0.69	-0.00	+18.16
		Daudkandi	-0.26	+1.40	+0.61	+1.67	-5.05	-6.15	-1.31	-3.43	-0.31	-3.21	-1.16	0	-17.90
		Kasba	-0.17	+1.09	-0.79	-1.22	+0.16	-0.17	+13.19	-2.86	-3.54	?	-1.55	-0.18	+14.80
CHITTAGONG	NOAKHALI	Laksam	-0.33	+1.00	+0.28	-2.36	-3.20	+10.22	+2.28	-7.99	-5.20	-2.00	+0.28	-0.14	-7.15
		Noakhali	-0.47	-0.23	+0.66	-1.21	-1.26	+10.33	+3.35	-3.94	-4.23	-2.87	-1.07	-0.60	-0.81
		Fenny	-0.54	+0.48	+0.25	+1.26	-4.41	+3.94	+2.65	-6.57	-5.54	-4.39	-2.10	-0.81	-16.36
		Harishpur	-0.42	+0.88	-0.66	-0.60	-6.92	+12.82	-3.41	-9.56	-7.13	-5.25	-1.43	-0.26	-23.89
		Ramganj	-0.42	-0.27	-0.66	+0.02	-4.95	+12.86	+1.05	-1.07	+0.98	-2.91	-0.89	-0.18	+8.35
	CHITTAGONG	Cor's Bazar	-0.56	+0.67	-1.06	-0.22	-4.47	+2.20	-5.27	-5.83	+0.04	-7.25	-2.21	-0.34	-24.04
		Chittagong	-0.49	-0.09	-2.18	-1.17	-3.66	+7.67	-3.70	-8.75	-6.20	-4.75	-1.53	-0.77	-28.33
		Kutubdia	-0.68	+0.27	-2.01	-0.59	-1.95	+3.59	-13.15	-15.86	-3.66	-4.89	-2.88	-0.38	-43.77
		Satkania	-0.37	+1.32	-1.34	+1.06	-3.58	+4.72	-12.28	-4.05	-4.57	-3.75	-1.21	-0.27	-35.63
		Kodala	-0.35	+0.13	-1.07	-2.43	-7.13	+7.86	-4.33	-7.13	-6.78	+0.08	-1.82	-0.84	-22.42
CHITTAGONG	SOUTH LUSHAI HILLS.	Rangamatie	-0.51	+1.46	-2.65	-0.71	-1.27	-1.02	-7.10	-6.49	-3.97	-4.45	-1.78	-0.50	-29.70
		Patna	+2.85	-0.29	-0.38	-0.20	+0.01	+0.56	+2.94	-0.48	+1.10	-2.25	-0.17	+0.11	+3.74
		Dinapore	+3.03	-0.13	-0.37	-0.20	-1.19	-0.83	-1.06	-1.36	+0.42	-2.63	-0.23	+1.46	-4.01
		Bihar	+1.97	-0.13	-0.37	+0.11	-0.19	+1.82	-6.32	-3.75	-1.41	-1.05	-0.21	+0.01	-9.42
		Barh	+3.28	-0.32	-0.36	-0.15	-1.31	+8.25	-6.29	-5.12	+0.08	-0.80	-0.21	+0.16	-2.79
	PATNA	Bikram	+2.71	-0.35	-0.44	-0.35	+0.55	+2.57	+5.50	-4.99	+0.17	-2.18	-0.41	+0.20	-7.22
		Hilsa	+3.89	-0.61	-0.59	-0.35	-0.53	+4.31	-4.09	-7.14	+4.51	-1.57	-0.07	-0.01	-2.25
		Aurangabad	+3.05	+0.75	-0.43	+0.75	-1.11	+2.61	-5.79	-2.38	+0.44	+1.73	-0.25	+1.01	-0.23
		Gaya	+1.47	+0.40	-0.43	+0.28	+0.28	-5.19	-4.46	+2.4	-0.40	-0.38	+0.54	-0.79	-7.96
		Nawadah	+1.06	+0.37	-0.50	-0.23	-0.73	+1.53	-4.53	-3.45	+5.68	+0.13	-0.16	+0.20	-0.73
CHITTAGONG	GAYA	Jahannabad	+1.09	+0.18	-0.37	+0.56	-0.80	+3.61	-7.43	-5.96	+3.61	-0.97	-0.27	+0.37	-6.34
		Arwal	+2.07	-0.44	-0.47	+0.21	-1.52	+1.64	-5.91	-6.15	+5.89	-0.76	-0.19	+0.39	-5.24
		Daudnagar	+1.70	+0.22	-0.17	-0.03	-0.81	+0.95	-1.31	-4.90	+0.46	+1.47	-0.26	+0.9	-1.71
		Sherghati	+1.63	-0.42	-0.66	-0.38	+1.66	-3.49	-3.62	+1.45	-0.69	-0.10	+1.1	-2.64	-0.68
		Kajauli	?	?	?	?	?	?	?	-0.71	-0.79	-0.34	+1.32	+0.68	-3.06
	SHAHABAD	Pakri Barawan	+1.75	-0.38	-0.62	0	-0.93	+4.85	-5.82	-7.88	+2.07	+1.07	-0.10	+2.36	-3.06
		Buxar	+2.34	-0.17	-0.32	-0.12	-0.51	-1.14	-1.26	-5.78	+1.09	-1.58	-0.46	+0.79	-0.62
		Dehri	+1.09	+0.69	-0.66	-0.05	+0.66	-1.64	-5.88	-3.22	+2.41	-0.79	-0.28	+0.70	-6.09
		Bhabhua	+2.29	-0.22	-0.55	-0.10	-0.35	-1.29	-6.27	-1.84	+4.72	+4.98	-0.59	+1.26	+2.27
		Sasaram	+2.42	+0.10	-0.36	-0.13	+0.12	+0.14	-2.27	-2.97	+3.03	-0.19	-0.28	+1.06	+0.07
CHITTAGONG	SARAN	Arrah	+3.67	-0.49	-0.40	-0.23	-0.32	-2.64	+4.73	-2.08	+0.80	-1.00	-0.20	+0.67	+2.11
		Mohanes	+8.06	-0.54	-0.14	-0.36	+0.29	-2.35	-4.43	-4.26	+8.94	+7.88	-0.31	+4.29	+6.77
		Gopalganj	+1.85	-0.31	-0.22	-0.17	+0.25	-3.44	-0.49	-5.06	+2.41	-1.78	-0.18	+0.39	-6.75
		Siwan	+2.57	-0.19	-0.22	-0.16	-0.23	-2.69	-2.5	-7.02	-1.00	-2.33	-0.22	+0.25	-14.09
		Chapra	+2.89	-0.17	-0.37	-0.22	-0.71	-2.78	-3.82	+2.66	-2.13	-0.38	+0.21	-2.83	-0.83
	CHAMPARAN	Mothari	+3.71	-0.31	-0.33	-0.68	-1.72	+0.13	-1.79	-5.45	+4.37	-1.07	-0.13	+0.37	-3.90
		Bettiah	+1.93	-0.20	-0.32	-0.19	+2.54	-2.85	-2.07	-2.07	+5.70	+1.01	-0.05	+0.05	+2.69
		Bagaha	+3.20	+0.41	-0.32	-0.25	-1.59	-5.61	-6.92	-10.90	-0.28	-0.36	-0.31	+0.9	-22.75
		Burhura	+1.72	-0.23	-0.34	-0.11	-1.11	-4.12	+1.64	-4.63	+5.15	+1.33	-0.11	+0.07	-0.64
		Sitamarhi	+1.33	+0.51	+0.10	-0.84	+1.14	+4.66	+5.09	-4.37	+0.18	+0.92	-0.08	+0.07	+8.71
CHITTAGONG	MUZAFFARPUR	Muzaffarpur	+0.73	-0.45	-0.40	-0.48	-0.83	+2.61	+1.44	-6.72	-0.70	-1.12	-0.17	+0.07	-6.62
		Hajipur	+2.68	-0.38	-0.49	-0.22	-1.44	+0.18	-3.23	-4.81	+2.97	-2.68	-0.17	+0.07	-8.14
		Paru	+2.14	-0.46	-0.32	-0.43	-1.69	-0.04	+1.69	-10.28	+1.21	-0.87	-0.11	+0.12	-0.94
		Mahuwa	+2.80	-0.42	-0.24	-0.45	-1.70	+2.24	-3.33	-7.15	?	?	-0.20	-0.07	-8.62
		Shihar	+1.03	-0.25	-0.17	-0.34	-0.79	+4.03	-2.09	-6.15	+0.81	-0.88	-0.18	+0.23	-4.75
	DARBHANGA	Papri	+0.58	-0.25	-0.54	-0.68	-2.44	-0.31	-2.33	-7.63	+4.67	+1.05	0	+0.07	-7.81
		Tajpur	+1.39	0	-0.25	-0.23	-1.60	+0.63	-0.64	-3.68	+5.22	-2.16	-0.19	+0.02	-0.99
		Darbhanga	+0.68	-0.42	-0.31	-0.61	-2.12	+4.95	-0.23	-8.58	+3.18	-1.94	-0.07	0	-5.77
		Madhubani	+0.79	-0.27	-0.41	-0.87	-0.88	+2.56	+0.31	-7.39	+5.03	-0.41	-0.06	+0.56	-1.35
		Bahra	-0.94	-0.17	-0.62	-0.78	-1.71	+4.47	-1.86	-11.69	-3.33	-0.49	-0.10	-0.07	-16.39
CHITTAGONG	MONGHYR	koera	+1.00	+0.66	-0.38	-0.17	-1.69	+3.84	+3.56	-3.76	-2.23	+0.77	-0.14	-0.03	-1.17
		Regusrai	+3.49	-0.18	-0.32	-0.22	-1.21	+4.07	+6.61	+1.76	-4.03	-0.45	-0.26	+0.11	+8.37
		Monghyr	+1.70	-0.37	-0.39	-0.12	-0.91	+4.35	-6.43	-4.90	-1.4				



Meteorological Division.	DISTRICT.	STATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
BIRSA - conchid. Bhagalpur-sonid.	MALDA	Malda	+0.14	-0.23	-0.80	+0.17	-1.02	+2.35	-0.51	-2.07	+2.12	-0.61	-0.20	-0.13	-3.84
		Chanchal	+0.28	-0.33	-0.93	-0.31	+0.08	+4.23	+3.37	-0.90	+6.68	-0.70	-0.19	-0.03	+6.26
		Gajol	+0.18	-0.11	-0.63	+0.27	+0.49	+13.00	+3.25	-4.13	+3.90	+1.44	-0.10	-0.02	+18.33
		Siuganj	+0.89	-0.63	-0.07	-0.58	-3.07	+1.31	-1.25	-2.59	-1.04	-2.36	-0.61	-0.05	-10.55
		Rajmahal	+0.89	-0.10	-0.39	-0.36	-3.34	+3.55	-3.68	-1.75	-0.61	+0.49	-0.12	-0.04	-9.06
	SONTHAL PAR- GANAS.	Godda	+1.21	+0.07	-0.63	-0.23	+0.65	+7.14	-2.29	-0.63	+1.88	+0.68	-0.31	-0.09	+7.75
		Pakour	+1.28	-0.14	-0.64	-0.33	-0.67	-0.13	+1.24	-0.91	+0.62	-2.05	-0.45	-0.08	-1.34
		Naya Dumka	+1.01	-0.48	-0.85	+0.27	+1.77	-1.76	+1.55	-2.90	+5.31	-2.60	-0.37	-0.17	+0.78
		Deochor	+1.91	-0.37	-0.71	+1.85	+1.71	-1.52	+2.15	-5.99	+6.22	-0.30	-0.24	-0.05	+4.75
		Jamtara	+0.91	-0.12	-0.95	+1.42	-1.37	-3.51	-7.28	-0.31	+6.72	-3.50	-0.59	-0.05	-1.67
ORISSA - Orissa.	CUTTACK	Nanihat	0	-0.59	-0.94	?	-0.13	+2.81	+8.66	-0.28	+8.61	-1.96	-0.31	+1.39	+17.66
		Jagatsingpur	-0.38	-0.70	-0.54	-0.16	-0.56	+1.86	-3.23	+15.28	+2.84	+1.67	-2.09	-0.28	+13.43
		Ranki	-0.26	-0.25	+0.41	+1.86	+0.28	-2.23	-3.41	+3.80	+14.29	+5.96	-1.81	-0.54	+18.08
		Cuttack	-0.32	-0.63	-0.33	+1.59	-1.61	-7.45	-4.81	+8.80	+11.31	+2.40	-1.73	-0.25	+3.77
		False Point	-0.57	-0.86	-0.82	-1.37	-2.49	-3.59	+3.38	+9.04	+6.70	-1.77	-3.23	-0.53	+5.17
	BALASORE	Kendrapara	-0.39	-0.14	-0.81	-0.51	-1.87	-3.33	-1.79	+8.22	+8.48	-0.30	-2.07	-0.32	+16.84
		Jajpur	-0.37	+1.02	-0.30	+0.42	-3.66	-3.60	+6.11	+3.84	+8.56	+1.39	-1.08	-0.49	+35.69
		Dharmasala	-0.42	+0.63	+2.30	+1.55	-1.30	-3.27	+12.68	+12.56	+13.00	-0.08	-2.08	+0.12	+35.69
		Salipore	-0.24	-0.41	-0.69	-0.54	-1.58	-3.02	-1.42	+5.35	+5.78	+3.18	-2.29	-0.13	+3.90
		Akhvapada	-0.38	+0.98	-0.37	-0.19	-0.40	-0.30	+13.76	+11.65	+8.60	+0.56	-1.97	-0.12	+31.32
CHOTA NAGPUR. Chota Nagpur.	HAZARIBAGH	Chandbali	-0.41	-0.11	-0.64	+0.69	+0.88	+2.69	+5.69	+9.73	+11.17	-1.41	-2.24	-0.41	+25.60
		Shadrak	-0.36	-0.47	-0.97	+0.62	-0.48	-1.21	+0.97	+4.69	+6.80	+1.78	-1.38	-0.28	+9.71
		Soro	-0.12	-1.00	+4.04	+1.20	+0.29	+2.74	+0.53	+6.87	+10.03	-0.33	-1.17	-0.09	+23.29
		Balsore	-0.27	+0.82	+1.80	-0.82	+1.32	+0.44	-1.93	+7.94	+7.93	-2.85	-1.32	-0.28	+12.08
		Jellasore	-0.44	-0.65	+0.33	+3.17	+1.87	-2.81	-7.47	+13.58	+4.75	-1.78	-0.72	-0.12	+2.74
	PURBI	Baripada	-0.16	+0.21	+1.17	+1.85	+1.26	-6.01	-4.27	+6.98	+11.69	-0.68	-1.05	-0.13	+10.26
		Puri	-0.28	-0.78	-0.10	+1.02	+1.57	-0.83	-2.82	+13.11	+3.93	-2.31	-3.47	-0.70	+5.74
		Khurda	-0.29	-0.23	-0.70	+0.33	-0.04	-1.83	-4.40	+6.24	+2.72	+5.34	-2.04	-0.42	+7.68
		Bhanpur	-0.33	-1.31	-0.17	-0.24	+0.13	+5.26	-7.10	+3.15	-1.13	+2.85	-1.72	-0.84	-1.45
		Gop	-0.25	-0.36	+0.18	+0.13	-1.84	-3.89	+1.44	+10.31	+0.18	+3.67	-6.08	-0.24	+4.45
CHOTA NAGPUR. Chota Nagpur.	LOHARDAGA	Pipli	-0.33	-0.36	-0.63	+0.43	-1.13	+0.55	-3.20	+11.42	+1.39	+1.14	-2.05	-0.32	+7.01
		Pachamba (Giridi)	+2.15	-0.12	-0.74	+0.73	-0.87	-0.32	-5.52	-0.54	+2.95	-1.20	-0.22	+0.45	-3.66
		Hazaribagh	+2.87	-0.37	-0.75	+1.58	-0.66	-0.83	-3.60	+2.61	+3.86	+0.04	-0.26	+0.81	+2.05
		Barhi	+3.86	-0.63	-0.83	+0.19	-0.82	+3.31	-3.92	-4.54	+0.40	-0.69	-0.23	+0.87	-3.03
		Chatra	+4.06	-0.96	-0.82	-0.55	-2.28	-0.68	-6.82	-0.85	+0.22	-1.46	-0.29	+1.05	-8.28
	PALAMAU	Karagdeha	+2.40	-0.19	-1.17	+1.51	-2.04	+2.16	+3.42	-2.53	-0.21	?	-0.48	-0.11	-4.82
		Ramgar	+2.65	-0.11	-0.65	+1.86	-1.04	-0.62	-8.06	-2.97	+7.54	-2.03	-0.79	-0.21	-5.03
		Lohardaga	+2.45	-0.06	-0.98	+2.25	-0.51	-0.08	-4.95	+1.17	+7.71	-0.02	-0.49	+0.22	+6.71
		Ranchi	+1.97	-0.57	-1.14	+3.54	-0.98	+1.64	-6.25	+1.07	+7.34	-2.19	-0.43	+0.17	+3.67
		Silli	+0.72	+0.62	-0.90	+1.75	-0.62	-1.19	-2.65	-2.10	+15.12	+0.35	-0.33	-0.12	+10.75
CHOTA NAGPUR. Chota Nagpur.	MANBHUM	Singra	+2.30	-1.20	-0.89	-0.08	-0.57	-4.87	+0.39	-0.69	+19.20	+5.25	-0.70	+2.21	+23.26
		Jasipur	+2.60	-0.96	-1.79	+4.41	-0.33	-3.91	-0.04	+4.22	+13.31	+4.65	-0.53	+1.23	+22.85
		Gangpur	+1.85	-0.96	-1.04	-0.64	+3.21	+6.17	+2.36	+12.26	+10.53	+9.54	-0.85	+1.49	+43.91
		Palamau (Dalton- ganj).	+2.88	-0.45	-0.70	+0.74	-0.54	-0.70	-6.13	-0.55	+1.41	-0.96	-0.37	+1.35	-4.94
		Balunath	+6.08	-0.73	-0.59	+0.18	+0.32	+0.02	-5.59	+4.52	+4.75	-0.07	-0.43	+2.63	+10.49
	SINGHBHUM	Husainabad	+4.12	+0.93	-0.35	+1.10	+0.18	-4.14	+4.14	+1.34	+12.46	-1.39	-0.34	+1.95	+20.70
		Garhwa	+2.61	-0.17	-0.74	+1.03	-0.72	0	-3.48	-6.74	+7.34	-2.68	-0.21	+1.32	-1.84
		Purulia	+0.23	+0.11	-0.61	+3.43	+0.46	-4.26	-5.92	-1.74	+7.33	-1.79	-0.33	+0.10	-5.39
		Goindpur	+0.88	-0.64	-0.89	+1.25	-0.46	-0.31	-5.75	-3.09	+6.80	-0.95	-0.27	-0.03	-3.40
		Raghunathpur	+0.27	-0.51	-0.89	+2.97	-1.32	-2.47	-9.75	-3.05	+9.46	-1.17	-0.63	-0.01	-7.75
CHOTA NAGPUR. Chota Nagpur.	ANGUL	Bahubbhum	-0.02	-0.63	-0.97	+1.82	-1.83	+1.08	-1.25	+1.76	+19.65	-0.78	-0.74	-0.08	+17.41
		Jhalda	+1.08	+0.47	-1.57	+0.62	+0.70	-3.13	-3.30	-2.07	+12.83	-1.20	-0.35	-0.12	+3.96
		Chas	+1.30	-0.06	-0.90	+2.26	-1.31	-0.79	-0.17	+0.49	+2.01	-1.16	-0.46	-0.15	-7.94
		Chaibassa	-0.27	-0.97	-1.00	+3.10	+0.32	-3.81	-4.92	+3.50	+10.07	-1.05	-0.45	-0.02	+4.80
		Chakradharpur	+0.80	-0.95	-0.38	+2.81	-0.50	+0.76	-0.82	+6.35	+9.48	-1.32	-0.80	-0.29	+0.14
	ORISSA TRIBU- TARY MAHALS.	Ghatsila	-0.26	-0.68	-0.26	+2.88	-0.05	-1.60	-2.74	+2.23	+13.46	-2.41	-0.83	-0.28	+9.14
		Baharagura	-0.12	-0.10	+0.42	+2.29	+3.00	-5.10	+0.74	+4.59	+8.38	-1.15	-0.75	-0.25	+11.95
		Keonjhor	+0.42	-0.50	+0.06	+1.34	-0.23	+7.26	-1.57	+13.54	+6.83	+2.61	-1.06	+0.73	+29.43
		Kunjabongarh	-0.24	-0.24	-0.60	+0.07	-1.63	-0.13	-2.80	+3.64	+0.18	+3.06	-1.42	-0.13	-0.24
		Angul	+0.88	-0.89	-1.25	-0.20	+1.39	-4.01	-5.54	+0.70	+4.16	-0.13	-1.34	-0.41	-8.04
CHOTA NAGPUR. Chota Nagpur.	ANGUL	Bisipara	-0.10	-0.29	-0.29	+2.22	+0.23	+3.21	-7.04	+7.75	-1.03	+0.17	-1.08	-0.32	+3.43
		Talchar	+0.01	-0.96	-1.06	-0.31	-0.11	+1.66	+2.72	+5.18	-1.47	+5.47	-1.26	-0.24	+9.63
		Dhenkanal	-0.32	-0.74	-0.87	+0.58	+2.58	-4.15	-6.39	+5.24	+12.30	+7.29	-1.40	-0.34	+13.78
		Narsingpur	-0.26	-0.23	-0.80	+1.10	-0.07	-6.48	+0.39	+9.06	-2.79	-4.17	-1.64	-0.07	-5.96
		Keonjhor	+0.42	-0.50	+0.06	+1.34	-0.23	+7.26	-1.57	+13.54	+6.83	+2.61	-1.06	+0.73	+29.43
		Kunjabongarh	-0.24	-0.24	-0.60	+0.07	-1.63	-0.13	-2.80	+3.64	+0.18	+3.06	-1.42	-0.13	-0.24
		Angul	+0.88	-0.89	-1.25	-0.20	+1.39	-4.01	-5.54	+0.70	+4.16	-0.13	-1.34	-0.41	-8.04
		Bisipara	-0.10	-0.29	-0.29	+2.22	+0.23	+3.21	-7.04	+7.75	-1.03	+0.17	-1.08	-0.32	+3.43
		Talchar	+0.01	-0.96	-1.06	-0.31	-0.11	+1.66	+2.72	+5.18	-1.47	+5.47	-1.26	-0.24	+9.63
		Dhenkanal	-0.32	-0.74	-0.87	+0.58	+2.58	-4.15	-6.39	+5.24	+12.30	+7.29	-1.40	-0.34	+13.78
		Narsingpur	-0.26	-0.23	-0.80	+1.10	-0.07	-6.48	+0.39	+9.06	-2.79	-4.17	-1.64	-0.07	-5.96

METEOROLOGICAL OFFICE, BENGAL,

The 3rd March 1901.

C. LITTLE,

Meteorological Reporter to the Govt. of Bengal.







March 1900.

District.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Number of rainy days.	Average number of rainy days.	Total rainfall for the month.	Average rainfall for the month.	Highest rainfall during the month.	Total rainfall from 16th October 1899 up to 31st March 1900.	Average rainfall from 16th October up to 31st March.
Jalpaiguri	Kulchini	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.39	0.08	0.12	...	0.16	0.11	...	...	...	...	...	...	...	0.74	...	...	5	?	1.60	?	0.74	?	?
Backergunge	Barisal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.05	0.17	...	...	...	...	...	...	...	...	...	...	1	3.27	0.23	2.63	0.17	11.24	3.49
Tippera	Daudkandi	...	...	...	...	...	...	1.35	...	...	...	...	...	...	...	...	...	0.16	...	...	...	...	...	...	...	0.14	...	...	...	0.20	...	...	4	2.40	2.05	2.4	1.53	4.84	5.76
Gaya	Deo	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil	?	Nil	?	Nil	?	?
Shahabad	Mohanis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil	0.50	Nil	0.14	Nil	5.51	2.53
	Muzaffarpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil	1.00	Nil	0.40	Nil	3.23	3.34
	Paru	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil	0.60	Nil	0.32	Nil	5.41	2.14
Muzaffarpur	Mahuwa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil	0.50	Nil	0.24	Nil	7.00	2.53
	Shihar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.20	...	...	...	...	...	...	...	...	...	...	...	1	1.00	0.20	0.37	0.20	2.51	2.09
	Popri	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil	0.50	Nil	0.24	Nil	2.17	2.56
Bhagalpur	Bangaon (Sylabad)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil	?	Nil	?	Nil	3.73	?
Sonhal Parganas	Barharwa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil	?	Nil	?	Nil	3.42	?
Ranchi	Gangpur	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Nil	2.08	Nil	1.04	Nil	2.24	4.57





May 1900.

[illegible]

June 1960.

[illegible]

July 1907.

[illegible]



August 1900.

District.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Number of rainy days.	Average number of rainy days.	Total rainfall for the month.	Average rainfall for the month.	Heaviest rainfall during the month.	Total rainfall from 16th May 1900 up to 31st August 1900.	Average rainfall from 16th May up to 31st August.
Dinajpur	Nawabganj	0.17	...	...	...	...	...	...	...	...	0.50	0.20	...	...	...	...	...	0.18	...	...	...	...	...	...	0.90	...	...	1.15	0.40	...	1.12	...	8	?	4.03	?	1.15	55.20	?
Mymensingh	Subarnakhali	...	...	0.73	0.52	...	...	...	0.25	0.29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.35	0.75	0.55	0.35	...	...	...	...	8	14.30	3.79	10.79	0.75	33.89	39.96
Tippera	Ramchandrapur	...	0.72	0.05	0.29	...	...	0.70	...	...	...	...	...	0.40	0.05	...	...	...	0.18	...	...	0.24	...	...	...	1.72	0.13	0.10	...	...	...	...	9	12.90	4.58	10.34	1.72	33.14	38.83
Muzaffarpur	Paru	...	...	...	...	0.11	...	...	...	...	...	...	...	...	0.30	...	...	0.12	...	...	...	...	...	...	1.72	...	...	...	0.40	0.12	...	...	6	12.64	2.86	13.14	1.72	22.54	32.63
	Mahuwa	...	...	...	0.50	0.30	...	0.10	...	...	...	...	0.15	...	...	...	...	1.10	...	...	...	...	0.53	0.15	...	1.15	0.60	...	...	...	...	...	9	12.50	4.60	11.75	1.15	23.58	33.85
Sonthal Parganas.	Nanihat	0.40	0.20	3.20	0.40	0.25	...	0.10	...	...	0.50	0.05	...	...	0.25	0.15	0.10	0.27	0.28	0.15	...	...	...	0.06	...	0.60	0.15	0.25	...	...	0.10	...	17	10.43	8.06	8.34	3.20	39.73	28.19
	Hiranpur	...	0.15	0.06	0.05	0.97	0.17	0.78	0.53	0.03	0.55	0.20	0.13	...	...	0.12	1.33	0.56	0.04	0.31	...	...	...	0.18	0.43	0.85	0.30	0.20	...	...	0.05	...	17	?	8.04	?	1.33	40.75	?
Ranchi	Ranchi	0.51	1.20	0.90	...	0.20	0.40	0.50	0.55	0.24	0.50	0.89	0.50	0.36	...	...	...	...	1.16	2.74	...	...	0.02	0.50	0.24	0.25	...	1.75	0.82	...	0.08	...	19	17.69	14.21	13.84	2.74	34.23	38.48
	Gangpur	3.40	1.00	0.50	1.30	3.00	0.80	2.20	...	1.00	2.02	0.08	...	...	...	...	...	2.00	0.80	0.70	...	1.80	0.50	0.40	0.20	...	...	1.28	2.00	1.00	...	1.90	20	18.14	27.88	15.62	3.40	?	42.73

September 1900.


September 1900.																																Number of rainy days.	Average number of rainy days.	Total rainfall for the month.	Average rainfall for the month.	Heaviest rainfall during the month.	Total rainfall from 16th May 1900 up to 30th September 1900.	Average rainfall from 16th May up to 30th September.
Midnapore	Panskura	0.47	0.43	0.03	0.55	0.02	...	0.50	0.10	...	...	...	...	0.05	1.21	1.19	0.13	2.11	1.51	0.19	2.31	1.00	1.65	5.80	0.31	0.82	0.90	...	...	19	?	21.28	?	5.80	53.24	?		
Murshidabad	Bakkabari	0.10	...	...	...	...	...	0.70	0.30	...	...	0.50	...	...	...	...	...	3.20	5.60	3.40	0.70	0.60	0.50	0.30	...	...	...	0.60	...	...	12	7.03	16.50	5.60	5.60	32.20	33.88	
Bangpur	Kurigaon	...	...	2.13	...	...	0.65	0.32	0.24	...	2.40	0.55	...	...	...	...	...	...	...	...	...	...	...	...	...	0.58	...	...	...	...	7	11.14	6.85	13.15	2.40	69.23	70.16	
Mymensingh	Subarnakhali	...	0.39	0.72	...	...	...	...	...	...	...	...	...	0.35	0.75	0.21	0.59	0.75	1.05	0.32	0.23	...	0.52	...	...	...	...	...	...	11	11.40	5.88	9.71	1.05	41.27	49.67		
Backergunge	Barisal	0.30	0.08	0.50	0.45	0.83	0.06	0.09	0.68	0.80	...	...	...	...	1.24	0.94	2.82	8.42	3.75	1.80	2.44	...	...	0.21	...	...	...	...	...	14	14.61	25.44	19.79	8.42	80.78	89.45		
Tippera	Ramchandrapur	...	0.38	0.10	...	...	...	...	0.27	0.10	...	...	...	...	...	0.44	0.18	0.07	0.05	...	...	...	...	...	...	...	...	...	...	6	9.55	1.59	7.52	0.44	36.73	46.25		
Noakhali	Hatiya	0.22	0.25	0.20	...	...	...	...	...	...	...	...	0.38	...	1.49	...	4.05	6.33	1.38	0.95	...	...	0.35	...	...	...	...	...	...	10	?	15.63	?	6.33	93.98	?		
Muzaffarpur	Shishur	...	0.50	...	...	...	2.20	...	...	...	0.60	0.10	...	...	...	...	...	...	...	...	0.57	...	...	0.23	0.23	0.30	3.50	...	...	9	6.80	8.23	7.42	3.50	33.97	39.21		
	Popri	...	0.12	...	...	...	...	1.22	...	...	3.34	1.22	...	...	...	0.14	...	...	...	0.12	0.06	0.13	...	...	0.53	0.42	0.09	3.12	...	...	10	6.38	10.51	5.84	3.54	34.54	42.16	
Bhagalpur	Bangaon (Syfabad)	...	...	...	...	...	...	0.25	...	...	2.04	0.60	...	...	...	...	...	...	...	...	...	...	...	2.18	3.40	...	2.20	...	...	6	?	10.87	?	3.40	46.72	?		
Furnea	Gondwara (Korah)	0.79	1.30	...	...	0.85	...	2.90	...	1.27	0.30	...	...	0.90	...	0.13	...	...	0.20	0.42	...	...	...	0.46	4.50	...	1.00	5.15	...	14	9.30	20.17	9.06	5.15	82.44	48.94		
Ranchi	Gangpur	2.04	0.50	...	...	...	...	2.00	1.08	...	...	...	...	...	0.09	...	1.20	0.80	1.40	2.00	...	...	1.00	0.07	...	1.82	2.00	...	2.10	...	12	11.28	18.10	8.58	2.10	?	51.51	
Singhbhum	Chakradharpur	0.47	0.02	0.15	0.69	0.15	0.57	...	0.31	...	0.78	0.06	...	...	0.23	0.80	0.87	0.89	1.54	0.98	1.06	0.47	2.64	0.82	0.87	...	...	0.57	0.07	...	19	13.00	14.92	5.61	2.64	60.14	41.34	
	Kharsawan	...	...	...	...	...	...	0.50	1.29	...	0.77	...	...	...	0.21	0.74	0.80	1.00	1.40	1.80	0.70	0.80	4.10	2.20	0.24	1.00	0.10	...	1.00	0.30	...	18	?	18.25	?	4.10	?	?
Angul	Chhindipada	1.21	0.50	1.24	...	...	...	1.50	...	...	2.75	...	...	...	...	0.90	...	4.00	...	1.84	0.37	...	1.04	0.24	...	...	...	0.33	...	...	12	?	15.92	?	4.00	?	?	

October 1900.

[illegible]



## Results of the Meteorological Observations taken at the Alipore Observatory from 17th to 23rd March 1901.

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
Mar.	17th	143.8	8.3	29.873	80.3	93.0	22.0	71.0	73.7	0.746	70.4	74	SW by S and WSW.	97	Nil	Chiefly clear, 
"	18th	149.7	9.7	.873	81.1	94.7	23.7	71.0	73.6	.730	69.8	72	SSW and Variable	97	"	Chiefly clear.
"	19th	154.8	7.8	.893	83.1	96.7	22.3	74.4	75.3	.774	71.5	72	SSW and SW ...	130	"	Chiefly clear.
"	20th	145.2	3.4	.910	82.6	91.9	16.7	75.2	74.8	.760	71.0	70	SW by S and Variable.	106	"	Chiefly cloudy.
"	21st	149.0	9.7	.907	83.3	97.4	27.1	70.3	70.6	.580	63.2	53	SWS ...	160	"	Chiefly clear.
"	22nd	152.0	9.9	.893	84.2	99.2	25.3	73.9	73.5	.683	67.8	62	SW and SSW ...	140	"	Chiefly clear.
"	23rd	150.0	9.7	.871	86.3	99.3	24.9	74.4	73.9	.670	67.3	53	SW and SSW ...	131	"	Clear.

The mean pressure of the seven days ... .. 29.889

The average pressure of the corresponding period for 24 years, Surveyor-General's Office ... .. 29.812

The total number of hours of bright sunshine ... .. 58.5

The maximum possible number of hours of sunshine ... .. 84.4

The mean temperature of the seven days ... .. 83.0

The average temperature of the corresponding period for 24 years, Surveyor-General's Office ... .. 81.5

The extreme variation of temperature ... .. 29.0

The maximum temperature ... .. 99.3

The highest velocity of the wind in one hour ... .. 11

The mean relative humidity ... .. 65

The average relative humidity of the corresponding period for 24 years, Surveyor-General's Office ... .. 63

The total fall of rain from 17th to 23rd March 1901 ... .. Nil.

The average fall of the corresponding period for 24 years, Surveyor-General's Office ... .. 0.20

The total fall from 1st January to 23rd March 1901 ... .. 3.26

The average fall of the corresponding period for 24 years, Surveyor-General's Office ... .. 2.57

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph, and from eye observations.


The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard, Newman's No. 86, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

, dew.

METEOROLOGICAL OFFICE, GOVT. OF INDIA,

Alipore (Calcutta), the 25th March 1901.

G. W. KÜCHLER,

For Meteorological Reporter to the Govt. of India  
and Director-General of Indian Observatories.

## GOVERNMENT OF BENGAL, IRRIGATION DEPARTMENT.

*Approximate Return of Traffic on the Circular and Eastern Canals for the week ending Saturday, the 23rd March 1901, as compared with the corresponding week of the previous year.*

NATURE OF CARGO.			WEEK ENDING SATURDAY, THE 23RD MARCH 1901.			WEEK ENDING SATURDAY, THE 24TH MARCH 1900.		
			Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
				Mds.	Rs.		Mds.	Rs.
Rice and paddy	...	...	471	89,475	1,404	833	2,33,615	3,930
Jute	...	...	24	11,105*	137	12	6,525	73
Firewood	...	...	73	47,175	708	48	39,550	595
Other articles	...	...	769	1,79,462	2,640	728	2,02,270	2,567
Total	..	..	1,337	3,27,217	4,889	1,621	4,81,960	7,165

\* Weight of cargo jute by canal measurement, 10,862½.



## Weekly Return of Traffic Receipts on Indian Railways.

## BENGAL CENTRAL RAILWAY COMPANY, "LIMITED."

Approximate Return of Traffic and Mileage for the week ended 16th March 1901, on 139 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	37,592	15,051 0 0	56,185 0	3,860 0 0	53 0 0	19,034 0 0	3,971	2,023	5,994
Or per mile of railway ...	289	1121 0 0	404 0	24 0 0	.....	149 0 0	.....	.....	...
For previous 9 weeks of half-year ...	340,898	1,48,032 0 0	6,15,839 0	46,493 0 0	40,221 0 0	2,35,346 0 0	48,428	24,367	67,795
Total for 10 weeks ...	378,490	1,64,313 0 0	6,71,994 0	50,381 0 0	40,274 0 0	2,54,970 0 0	47,399	26,390	73,789
COMPARISON.									
Total for corresponding week of previous year ...	32,483	13,190 0 0	1,22,892 0	8,726 0 0	160 0 0	22,076 0 0	4,488	3,405	7,953
Per mile of railway corresponding week of previous year ...	250	101 0 0	884 0	63 0 0	1 0 0	165 0 0	.....	.....	...
Total to corresponding date of previous year ...	376,341	1,51,884 0 0	10,17,127 0	76,356 0 0	20,288 0 0	2,48,528 0 0	50,098	32,440	83,438

\* Audited up to week ending 26th January 1901.  
 † Coaching traffic calculated on 139 miles only.

## BENGAL AND NORTH-WESTERN RAILWAY.

Approximate Return of Traffic for the week ending 16th March 1901, on 1,251 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including steam-boat.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs.	Mds.	Rs.	Rs.	Rs.			
Total traffic for the week on 1,251 miles open ...	176,240	(a) 71,270	694,880	(b) 1,01,310	(a) 18,160	1,90,740	30,273	(c) 33,707	64,039
Or per mile of railway ...	140'88	56'97	547'47	80'98	14'52	152'47	.....	.....	...
For previous 9 weeks of half-year ...	1,555,399	6,57,867	6,605,511	9,49,008	1,58,723	17,65,598	302,345	285,453	587,798
Total for 10 weeks ...	1,731,539	7,29,137	7,350,391	10,50,318	1,70,883	19,56,338	332,617	319,220	651,387
COMPARISON.									
Total for corresponding week of previous year on 1,138 miles open ...	120,368	51,219	742,644	1,04,746	13,447	1,69,412	26,485	(d) 36,716	63,201
Per mile of corresponding week of previous year ...	103'94	44'23	641'32	90'45	11'62	146'30	.....	.....	...
Total to corresponding date of previous year ...	1,424,003	5,97,245	7,021,439	10,44,349	1,79,929	18,21,523	296,016	3,55,202	651,218

(a) Increase due to increased mileage and improved traffic generally.  
 (b) Decrease due to the traffic last year being abnormal.  
 (c) Includes 3,170 miles of ballast trains run on open line.  
 (d) " 4,980 " " "

## SEGOWLIE-RAKSAUL BRANCH RAILWAY.

(WORKED BY THE B. &amp; N.-W. RAILWAY.)

Approximate Return of Traffic for week ending 16th March 1901, on 18 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		(Other earnings (estimated)).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Passengers carried.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
	No.	Rs.	Mds.	Rs.	Rs.	Rs.			
Total traffic for the period on 18 miles open ...	1,282	150	10,077	967	9	526	383	121	504
Or per mile of railway ...	71'22	8'33	559'83	20'39	0'50	29'22	.....	.....	...
For previous 9 weeks of half-year ...	16,187	3,103	121,604	3,614	364	7,111	3,311	1,117	4,428
Total for 10 weeks ...	17,469	3,253	131,681	4,011	373	7,637	3,694	1,238	4,932
COMPARISON.									
Total for corresponding week of previous year on 18 miles open ...	1,180	212	9,055	204	17	433	176	76	252
Per mile of corresponding week of previous year ...	65'59	11'79	503'06	11'32	0'97	24'08	.....	.....	...
Total to corresponding date of previous year ...	15,034	2,738	96,736	3,175	93	6,006	1,761	1,011	2,772

## SEGOWLIE-RAKSAUL BRANCH RAILWAY.

(WORKED BY THE B. &amp; N.-W. RAILWAY.)

*Audited Return of Traffic for last 9 days of December 1900, on 18 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Passengers carried.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
	No.	Rs. A. P.	Mds.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the period on 18 miles open ...	2,454	489 12 7	16,494	350 14 11	96 9 0	937 4 6	205	110	315
Or per mile of railway ...	136'33	27 3 5	916'33	19 7 11	5 5 10	52 1 2	...	...	...
For previous 20 weeks of half-year ...	30,623	5,295 9 10	162,923	4,029 10 0	358 13 0	9,592 1 7	3,782	1,564	5,346
Total for the half-year ...	32,976	5,683 6 5	169,417	4,380 9 5	455 6 0	10,582 6 1	3,987	1,673	5,660
COMPARISON.									
Total for corresponding period of previous year on 18 miles open ...	1,559	277 6 3	10,153	242 13 0	10 0 0	528 2 3	216	72	288
Per mile of corresponding period of previous year ...	102'78	15 6 7	564'00	13 6 0	0 8 11	29 5 6	...	...	...
Total to corresponding date of previous year ...	11,779	2,347 8 9	190,667	2,551 15 0	234 1 0	5,433 8 9	1,769	793	2,562

## ASSAM-BENGAL RAILWAY.

*Approximate Return of Traffic for the week ended 2nd March 1901, on 397 miles open for all descriptions of traffic, and an additional 181 miles for goods and parcels traffic only.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. s.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	37,251	23,183 0 0	108,897 0	14,039 0 0	1,805 0 0	39,924 0 0	4,132	7,074	11,206
Or per mile of railway ...	93'83	58'33	275'40	35'85	4'54	87'30	10'41	17'54	27'95
For previous 8 weeks of half-year ...	329,192	2,34,291 0 0	744,186 0	95,145 0 0	20,112 0 0	3,49,548 0 0	38,363	44,084	82,447
Total for 9 weeks ...	366,443	2,57,471 0 0	853,083 0	1,10,084 0 0	21,917 0 0	3,80,478 0 0	42,495	51,158	93,653
COMPARISON.									
Total for corresponding week of previous year ...	39,608	25,491 0 0	118,330 0	11,683 0 0	1,644 0 0	39,733 0 0	4,367	4,811	9,178
Per mile of railway corresponding week of previous year ...	100'02	64'67	297'60	29'75	4'12	97'18	10'99	12'10	23'09
Total to corresponding date of previous year ...	285,777	1,83,972 0 0	1,137,399 0	1,06,721 0 0	17,880 0 0	3,08,573 0 0	37,573	45,636	83,209

\* Ballast trains weight and train-miles have been omitted from this return for Chittagong Section only, the amount for ballast trains have been included under column "other earnings."

## FINANCIAL YEAR.

*Approximate Statement of Gross Receipts of the Assam-Bengal Railway.*

RECEIPTS FOR WEEK ENDING 2ND MARCH 1901.			RECEIPTS FOR WEEK ENDING 3RD MARCH 1900.			TOTAL RECEIPTS FROM 1ST APRIL 1900 TO 2ND MARCH 1901.			TOTAL RECEIPTS FROM 1ST APRIL 1899 TO 3RD MARCH 1900.			Total increase in 1901.	Total decrease in 1901.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
	Rs.	Rs.		Rs.	Rs.		Rs.			Rs.		Rs.	Rs.
578	39,924	87'86	437	39,733	97'18	578	16,45,275	...	437	14,81,455	...	1,63,823	...

## DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

Approximate earnings for the week ending 15th March 1901 ...	Rs. A. P.
Audited earnings for the corresponding period of 1900 ...	16,058 0 0
Decrease ...	17,039 0 0
Decrease ...	1,011 0 0
Receipts per mile for the week ending 15th March 1901 ...	314 13 10
Ditto for the corresponding period of 1900 ...	334 11 0
Decrease ...	19 13 2
Receipts from 1st January to 15th March 1901 ...	1,18,315 0 0
Ditto for the corresponding period of 1900 ...	1,46,335 0 0
Decrease ...	28,020 0 0

Printed at the Printing Office, and published by the Book Depot, of the Bengal Secretariat, Writers' Buildings, in the City of Calcutta, on 27th March 1901.



# SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, APRIL 3, 1901.

## OFFICIAL PAPERS.

[Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of five rupees per annum if delivered in Calcutta, or seven rupees and eight annas if sent by post.]

## CONTENTS.

	Page.		Page.
RESOLUTION on the Report on the Annual Administration of the Opium Department for the year 1899-1900 ...	645	RESULTS of the Meteorological Observations taken at the Alipore Observatory from 24th to 30th March 1901 ...	662
Resolution on the Report of the Committee appointed to enquire into the working of the Calcutta Port Trust ...	649	Eastern Bengal State Railway for the month of December 1900 ...	663
Weather and Crop Report for the week ending 1st April 1901 ...	658	Bengal-Nagpur Railway for the month of October 1900 ...	665
		Weekly return of Traffic Receipts on Indian Railways ...	667

## RESOLUTION ON THE REPORT ON THE ANNUAL ADMINISTRATION OF THE OPIUM DEPARTMENT FOR THE YEAR 1899-1900.

### REVENUE DEPARTMENT.—OPIUM.

#### RESOLUTION—No. 1754.

*Calcutta, the 29th March 1901.*

#### READ—

The Report on the Annual Administration of the Opium Department for the year 1899-1900 (1st September 1899 to 31st August 1900).

UNDER the recent orders of the Government of India the reports of the two Opium Agents are not attached to the Board's present report. This has required an adaptation of the Opium Agents' tables and statements for incorporation in the present report. In the result the Board have remarkably consolidated and shortened their report, and give grounds for still further improvement in the future. The tour of Mr. Baillie, the Opium Agent for Benares, was most comprehensive and useful, and throughout the Benares Agency the shortest tour of the departmental officers was longer than the longest tour in Bihar. The Board notice this, and there is abundant evidence that in the Bihar Agency there is special need of close enquiry and check, and the Board will doubtless ensure that the officers' tours are longer and more thorough. The Bihar officers check-measured some 10,000 less plots during the year under report than in the preceding year, and in the plots so measured there has been a rise and not a fall in the proportion of failure to cultivate. The percentage of such failures is far higher in the Bihar than in the Benares.



Agency, and demands the most careful attention from the officers of the Department. The Lieutenant-Governor hopes to see a marked improvement during the ensuing year. The proposal to utilise the patwari agency of the North-Western Provinces for reporting poppy areas in the Benares Agency was accepted by the Government of the North-Western Provinces and Oudh. With the approval of Government, the scheme, however, was not put into execution during the year owing to the employment of the patwaris on census work.

2. The increased area engaged for in the Bihar Agency cannot be considered as indicating a genuine increase in the popularity of the crop: it was due to a special cause, viz., the long-term settlement accompanied by large advances in the Tirhut Sub-Agency. The cultivators, however, took advantage of the system to obtain loans, free from the interest they would have had to pay to the money-lenders, without the intention of maintaining the settlements for the term of years stipulated, and the Board have accordingly rightly discontinued the system. In the Benares Agency there was a very remarkable increase in the area engaged for, which the Lieutenant-Governor is glad to observe was not confined to any particular division. Much of this result is due to Mr. Baillie's judicious tour to the various centres, where settlements were being made; and the report indicates the three direct causes that led to the increase. The most remarkable proportion of the increase is in the triangular tract of country comprised between Bareilly as the apex and Etawah and Bara Banki to the west and east, respectively.

3. The average outturn per bigha in the Bihar Agency showed a fall of 5 chitaks as compared with last year, whereas in Benares it exhibits an increase of some 2 chitaks. This was directly due to the very unfavourable season in the Bihar Agency. The first sowings failed owing to absence of rain, but the lands were resown on rain falling in November, and the crop promised well, when in January a severe hailstorm wrought great havoc to the crop. In the Benares Agency, on the other hand, the rainfall was favourable to the crops, and the year was very free from insect-pest. Severe damage was, however, caused to the crop by hail in the Azamgarh and Ghazipur Agencies. In Bihar there was a decrease in the irrigated area and in the money advanced for wells, the explanation advanced for which is that the good rain from July—September filled the jhils and tanks, rendering irrigation from them practicable. This is not, however, quite consistent with the large increase in failures of the land sown during the year under report.

The Lieutenant-Governor has read with interest the remarks with regard to advances for wells on personal security being increased from Rs. 50 to Rs. 100 and that refunds should be made in three instalments. A good irrigation supply for poppy is all important, and anything that can be reasonably done to increase the popularity of loans for the construction of wells he will welcome.

4. He agrees with the Board's remark about making the boundaries of licenses conterminous with those of revenue mauzas: the mauza varies so greatly in size that any such general rule would be injudicious: the idea of the mauza as a unit may be a good one, but the essential aim should be to assign to the lambardars areas which, while admitting of their being effectively supervised by one person, will still afford sufficient remuneration to attract a good class of men.

5. The Lieutenant-Governor is glad to notice that Mr. Blyth was able to arrange the friction that had occurred between the department and the indigo planters in regard to their claim on poppy lands. In the Benares Agency sugarcane cultivation was the chief rival to *poppy*.

6. It is satisfactory that at Ghazipur it was possible to manufacture at a consistence within the standard, and that Government therefore was saved the loss that it has suffered for many years past. Climatic conditions, prompt weighment, and the efforts of the officer to induce the cultivators to keep down consistence contributed to the success. Bad weather and the scanty yield caused a rise in the consistence of the opium from the Bihar Agency, but this is another matter to which the Bihar officers must give their special attention.

7. The prejudice against the preparation of leaves still continues in Bihar, and the shortage was made up from Benares. It will probably be necessary to revise the system of classification and payment, and proposals to that end have been made to the Government of India. No definite remedy has so far been devised to obtain a larger supply of pure pasewa from the cultivators in the Benares Agency. His Honour will await with interest the continued experiments which are being made. He is glad to observe that the adulteration of opium with soapstone has been detected, and trusts that the prompt punishment of the offenders will have a wholesome effect.

8. The Lieutenant-Governor agrees with the Board in holding that Mr. Tytler's proposal to abolish the system of final payments according to factory assay is impossible until a more scientific method of classification by the local authorities is devised. He notices with regret the large outstanding balance from the Tehta Sub-Agency, and he agrees with the Agent that efforts were not made early enough for its recovery by the officer in charge. The Ghazipur Division also shows a large outstanding balance, which is attributed to the damage wrought by hail. This no doubt wrought much havoc, but Azamgarh was also reported to have suffered very severely from this cause. There would appear to be no *prima facie* reason why the balance outstanding should be so large in the case of Ghazipur and comparatively small in that of Azamgarh. With regard to items shown as irrecoverable careful enquiries should be made and a report submitted for permission to write them off.

9. The standard outturn of 54,000 chests of provision and 7,000 to 8,000 maunds of excise opium enjoined by the Government of India was not reached because the average outturn per bigha was lower than that on which the Government of India had based their normal requirements. Subsequently at the suggestion of the Government of India the standard requirement has been fixed at 48,000 chests provision opium *plus* the ordinary excise requirements. Cultivation will be regulated accordingly.

10. The agreement to supply Messrs. Burgoyne, Burbidges and Company with a monthly supply of opium alkaloids does not, in view of the repeated analyses made by the Chemical Examiner to Government of the muriates of the Company and their allegations of the impurity of the Government supply, appear satisfactory. The Lieutenant-Governor awaits the further report promised.

11. The expenditure for the year under review showed a decrease in the Bihar Agency of over 8 lakhs and in the Benares Agency an increase of over 30½ lakhs. The reasons for the decrease and increase fall under the same heads in both Agencies, viz., cost price of opium, there being a short and large outturn in Bihar and Benares, respectively.

12. The Lieutenant-Governor notices that the Bihar Agent is of opinion that very little opium is retained by the cultivators for smuggling purposes. In the Benares Agency, on the other hand, it seems, judging from the case of the organised gang who were convicted for adulteration, that retention on a large scale is common. The Lieutenant-Governor, while agreeing that inquisitorial proceedings are not advisable, would again call the attention of the Agent to the necessity of impressing on all officers the need of keeping a careful watch on all cultivators whose outturn is habitually short. The statistics of convictions, fines and rewards seem to indicate, as the Board observe, a relaxed activity in the administration of the Opium laws. In view of the probable increase in the illicit trade with Burma, vigilance must not be relaxed.

13. The Lieutenant-Governor is pleased to observe the continued successful working of the alternative asamiwar system in the Aliganj Sub-Agency. The success that attended its introduction in Bettiah and Tirhut have led the Government of India to sanction its extension to the rest of the Agency, with the exception of the Hazaribagh Sub-Agency. The Government of India in May 1899 asked for a report as to the possibility of introducing the asamiwar system into the Gorakhpur and Basti subdivisions. The Agent's reply is embodied in the Board's report: it appears that the system has been introduced with much success in Gorakhpur, where a personal attendance of 92 per cent. of the cultivators was secured. In Basti cultivators take very small advances, and the percentage there is not so high. The Lieutenant-

Governor observes that the experiment of packing opium of the first class in bags has turned out well: this will result in a considerable saving of expense over the old system of packing in jars, and he trusts that the continued experiment in the same direction with regard to second class opium will eventually prove equally successful. The result of the experiment which will be undertaken in Muzaffarpur with a view to the utilisation of the survey maps and settlement records is awaited with interest.

14. In conclusion the Lieutenant-Governor desires to place on record his thanks to the Hon'ble Mr. Oldham for his exceptionally able administration of the department during his term of office in the Board. The services of Mr. Baillie during the year have been of prominent value. The commendations of other officers of the department by the Board of Revenue will be noted.

By order of the Lieutenant-Governor of Bengal,

F. A. SLACKE,

*Secretary to the Govt. of Bengal.*



**RESOLUTION ON THE REPORT OF THE COMMITTEE APPOINTED  
TO ENQUIRE INTO THE WORKING OF THE CALCUTTA  
PORT TRUST.**

No. 696Mne.

**Government of Bengal.**

**MARINE DEPARTMENT.**

*Dated Calcutta, the 1st April 1901.*

**RESOLUTION.**

**READ—**

Government of Bengal Resolution No. 2074 Marine, dated 30th October 1900.

Report of the Committee appointed to enquire into the working of the Calcutta Port Trust, dated the 15th March 1901.

*Resolution.*—In the Resolution of the 30th October last the Lieutenant-Governor of Bengal appointed a Commission to enquire into matters connected with the Port Trust of Calcutta. The Commission consisted of the following gentlemen:—

The Hon'ble E. N. Baker, c.s.t.	...	...	...	<i>President.</i>
The Hon'ble G. H. Sutherland, President of the Chamber of Commerce	...	...	...	} <i>Members.</i>
and partner in the firm of Messrs. Begg, Dunlop and Company	...	...	...	
The Hon'ble Sir Allan Arthur, Kt., partner in the firm of Messrs. Ewing	...	...	...	
and Company	...	...	...	
Sir Patrick Playfair, Kt., C.I.E., partner in the firm of Messrs. Barry	...	...	...	
and Company	...	...	...	} <i>Secretary.</i>
Mr. F. G. Dumayne, Secretary of the Bombay Port Trust	...	...	...	
„ A. Muirhead, General Traffic Manager, G. I. P. Railway	...	...	...	
„ J. Lightfoot, Manager, Eastern Bengal State Railway	...	...	...	
„ E. R. Gardiner, Under-Secretary to the Government of Bengal,	...	...	...	
Public Works Department	...	...	...	

2. The Commission held twelve meetings and took evidence, both orally and in writing, from any gentlemen who wished to state their views: the Commission inspected all parts of the Trust property and visited Luff Point with reference to the proposal to construct coal docks at that place: a Sub-Committee of the three expert members of the Commission fully investigated the methods of working, the duties of the staff, the financial results of the operations of the Port Trust, and, generally, the state of efficiency of each branch of the administration of the Trust. The report of the Sub-Committee is an appendix of the Report of the Commission.

**THE THREE QUESTIONS REFERRED TO THE COMMISSION.**

3. The issues, referred to the Commission, were:—

- (1) How far can the present management of the Port Trust be improved—
  - (a) with regard to efficiency?
  - (b) with regard to economy?
- (2) Should the profits of one part of the Trust property be used to meet deficits on another, or should they be kept entirely separate
- (3) Should the offices of Vice-Chairman and Chief Engineer be separated, on the expiration of the term of office of the present incumbent, and, if so, what other changes, if any, in the present organization are desirable?

4. With reference to the first question numerous suggestions are made to increase the efficiency of the various departments of the Trust, and the Commission makes various proposals which are estimated to produce, partly by economy in present expenditure, partly by re-adjustments in existing rates and charges, and partly by increase

Paragraph 188.

in rents and miscellaneous receipts, a net annual improvement of nearly 5½ lakhs of rupees in the financial position of the Trust. On the other hand, certain named additional capital expenditure is advocated.

5. The reply given to the second question is, that the Commission considers that the operations of the Trust should be treated as a whole, and that the contention that each

Paragraph 18.

department should be independent and self-supporting cannot be maintained.

In regard to the third question, the Commission points out that there is no difference of opinion on the main point, and recommends, without hesitation, that the posts

Paragraph 170.

of Vice-Chairman and Chief Engineer should be separated. The Lieutenant-Governor, with the concurrence of the Commissioners of the Port Trust, has already given his approval to arrangements which will give effect to this recommendation. Various recommendations are made concerning less important questions connected with the establishment of the Port Trust.

#### FINANCIAL CONDITION OF THE TRUST.

7. The Report refers to the fact that, when the Commissioners of the Port entered on their duties in 1870, they took over from

Paragraph 9.

Government four jetties and some minor works of improvement of the river bank, and leased the Strand Bank lands. At that time they accepted a capital debt, which was subsequently expressed as Rs. 17,65,000, representing the value of the Port Block made over to them. During the thirty years which have intervened, the Trust has developed and increased their property, so that the book value of the block now stands at more

Paragraph 10.

than 570 lakhs of rupees, and the Trust has nearly 36 lakhs accumulated in reserve and sinking funds.

The Report refers to the development of the Port Trust in these words:—

“For this Capital expenditure the work done by the Trust may be summarised thus:—

Page 5, paragraph 10.

It has greatly extended the jetties, and the accommodation provided in connection with them; it has furnished special accommodation for the petroleum trade and tea trade, the coal trade and the salt trade, and is now providing similar facilities for the wheat and seed trade. It has supplied the shipping with a graving Dock, and is now building a second. It has lined the Calcutta bank of the river with wharves for the convenience of the inland trade, and has made similar, though less extensive, arrangements on the Howrah bank. It has constructed a railway on both banks of the river, and has provided a fully-equipped Dock for which demands have been made at intervals from so far back as 1781.

8. The report points out that the main heads of expenditure of all Departments of the Trust, in 1899-1900, may be stated thus:—

Page 6, paragraph 15.

	Rs.
Establishment ... ..	16,38,897
Working expenses ... ..	15,44,509
Repairs, renewals and depreciation ... ..	7,58,328
Rent and taxes ... ..	2,63,624
Interest and sinking fund ... ..	22,99,174
Miscellaneous ... ..	1,48,963
Total ... ..	66,53,495

and, referring to the manner in which the accounts of this expenditure is presented, it is stated that the Commission had frequent occasion to endorse the view of their Sub-Committee that “the mass of information published in the Administration Report of the Trust is much of it unnecessary while the mode of stating it is confusing, misleading and, in some cases, inaccurate.” The Commission recommends a system of accounts for consideration. The Lieutenant-Governor considers it a matter of importance that the forms of account should be improved and simplified.

Page 7, paragraph 16.



9. The Report points out that the heaviest item in the total expenditure of Rs. 66,53,495 is the charge for interest and sinking fund on the capital debt. This debt stands thus:—

	Rs.
Original amount of loans raised up to 31st March 1900 ...	4,85,60,666
Debenture Loan of 1900-01 ...	10,35,600
	<u>4,95,96,266</u>
	Rs.
Repaid to Government ...	34,21,801
Book debt (not repayable) on account of value of original Port Block ...	17,65,000
	<u>51,86,801</u>
Present balance of the Commissioners' debt ...	<u>4,44,09,465</u>

10. This debt is of three kinds:—

Page 10, paragraph 27.

	Rs.
Balance of Government consolidated loan ...	26,03,299
Government Dock Loan ...	2,87,70,566
Debentures ...	1,30,35,600
	<u>4,44,09,465</u>

Under existing arrangement the first of these loans will be liquidated in 1910. The Commission proposes that the Port Commissioners should raise a new debenture loan, having a currency of thirty years, to pay off this Government loan. The effect of this will be to postpone the ultimate liquidation of this part of the debt from 1910 until 1931, with the result, of course, of immediate financial advantage to the Trust. This advantage is estimated at an annual sum of Rs. 1,69,140. The Lieutenant-Governor anticipates that this proposal will meet with the approval of the Port Commissioners.

11. The Government dock loan of Rs. 2,87,70,566 is, under existing arrangements, to be paid off in 1937 by a sinking fund which will not be instituted until 1910. At present the Port Trust pay only the annual interest (Rs. 11,50,823), which is due on this debt. The Commission suggests that the period of repayment of the Loan should be extended to 1951, that is, to sixty years, from the year 1891, when the Docks were held to have been completed. The report says:—

“We are of opinion that, in the case of permanent works of such a nature as the Kidderpore Docks, the period of repayment might reasonably be extended. We are informed that the Trustees of the Port of Bombay have, with the consent of the Government of India, recently formed a General Sinking Fund for the extinction of the whole of their Capital Debt, both to Government and to the public, calculated so as to extinguish the existing debt in sixty years; also that the City Improvement Trust, Bombay, has authority to issue loans repayable in sixty years. We understand, also, that sixty years is the period fixed by the Treasury authorities in England for the liquidation of loans, for works of a durable or permanent character, raised by local authorities. We consider that, in virtue of these precedents, the Government of India might be asked to extend the period of repayment to 1951, or sixty years from the date of completion of the Docks.”

The Lieutenant-Governor again anticipates that this proposal will have the support of the Commissioners of the Port Trust, and the Chamber of Commerce.

12. With reference to the Debenture Loans of Rs. 1,30,35,600, the Commission points out that they must, of course, be liquidated according to the terms prescribed at the time of issue; but the recommendation is made that the Calcutta Port Act be amended, so that, in future, the Sinking Funds necessary to liquidate new loans should be on the basis of repayment in sixty years.

This proposal is in accordance with the existing practice and the law in the case of the Bombay Port Trust. The Report says:—

“We recommend that section 24 (1) of the Calcutta Port Act be amended so as to bring it into uniformity with the Bombay Act. In Bombay debenture loans are not usually issued for a longer period than thirty years, but the Trustees are not required by law to, and do not in practice, provide

Page 11, paragraph 3.



a Sinking Fund sufficient to liquidate their loans within thirty years. They provide a Sinking Fund sufficient to liquidate all their loans within sixty years, and, when any loan falls in, they liquidate it partly by means of the Sinking Fund and partly by issuing a fresh loan for the balance."

The Lieutenant-Governor will await the opinion of the Port Trust and of the Chamber of Commerce in this matter.

13. The report of the Commission shows, in a statement No. 4, Appendix C, of the Report, that the effect of the proposals with reference to the three classes of loans, would

Page 233.

Page 10, paragraph 26.

be to place the general financial condition of the Port Trust in the following position:—The consolidated Government Loan Rs. 26,00,299, would be paid off in 1930; the Government Dock Loan would be paid off in 1951; the present Debenture Loans of Rs. 1,30,35,600 would be paid off as they become due: and this would be done, not only without any additional burden on the annual charges of the Port Trust, but with an immediate saving of Rs. 1,69,140 a year; and, if the annual charge on account of Interest and Sinking Funds were maintained at its present figure, with the possibility of raising new loans of approximately the same amount as the existing Dock Loan (287 lakhs).

14. The Commission is not able to propose any material reductions in the other main heads of expenditure of the Trust; but proposes certain changes which will produce the following improvement in the annual revenues:—

Page 22, paragraph 82.  
Page 51, " 190.

	Rs.	Rs.
Annual saving on interest and sinking funds ...	1,69,140	
Other savings... ..	80,732	
		2,49,872
Increase of rates and charges ... ..		2,25,000
Increase of rents and miscellaneous ... ..		66,500
Net improvement ... ..		5,41,372

and this improvement is calculated without reference to any probable increase in the trade of the Port, or to certain economies in the cost of repairs, working expenses, and handling charges, which are recommended generally, but can not be accurately stated.

Page 51, paragraph 190.

On the other hand, the Commission proposes additional expenditure on various improvements.

15. These considerations bring the conclusion that, if the proposal to base the Sinking Funds on a period of sixty years instead of thirty years be accepted, and if the economies and increases in revenue just mentioned are effected, the financial position of the Calcutta Port Trust will be a very strong one. The Trust will be able to carry on their present operations, and to incur additional capital expenditure, to at least the extent which is meanwhile advised to be necessary, without any increase in the total annual expenditure of the Trust.

#### SPECIAL TOLL.

16. The Special Toll, which is now levied under section 108 of the Calcutta Port Act, is annually imposed only if, in the words of the law, "on the preparation of the estimate of any year, it shall appear that the estimated income \* \* \* after deducting therefrom the estimated expenditure \* \* \* will be insufficient for the payment of the sums which \* \* \* will be payable during the year." This toll in short is, at present, a resource which is only to be applied when it becomes absolutely necessary to enforce it in order to adjust the income to the expenditure of the Port Trust.

17. The Report of the Commission recommends that the "Special Toll" should be regarded in quite another light, and that its designation should be altered. It is

Page 12, paragraph 35.

pointed out that on the Mersey, the Clyde and the Tyne, a "River due" is regularly levied, and that the circumstances of the Port of Calcutta make such an impost specially applicable. The Commission recommends that this

"Special Toll" should be changed into a "River due" and made the main permanent source of revenue of the Port Trust, and that the charges made for landing, shipping and for special services rendered should be the varying elements in the Port Trust Revenue, to be adjusted, from time to time, in accordance with the financial position. The present rate of four annas per ton weight of cargo is recommended for all goods, except coal, on which the Commission proposes that the "River due" should be one anna a ton. This is the one part of the Commission's recommendations on which there is likely to be a difference of opinion, and the Lieutenant-Governor, before coming to a final decision, will hear what the Port Commissioners themselves and the Chamber of Commerce have to say. The arguments of the Commission have been very temperately stated, and they possess all the force of the unanimous opinion of a Commission nominated by the Chamber itself of the men who from ability and experience are likely to present a wise advice.

## JETTIES.

18. The Commission points out that it has been stated that the importer is being heavily over-charged at the Jetties to enable the Port Trust to meet deficits caused mainly by exports. But the accounts of the Jetties, as they are kept at present, include the figures referring to many special services, such as the Petroleum Wharf, the Tea Warehouse, the Piece-goods Warehouse, and others. If these are eliminated, it will be found that the results obtained from the Jetties alone only give a return of about  $5\frac{1}{2}$  per cent. on the capital cost of the Jetties, and less than that if the value of the land on which they stand is included.

19. The Commission refers to the question of dealing with both imports and exports at the Docks instead of the present system under which imports are mainly dealt with at the Jetties, and exports in the river and at the Docks. The conclusion of the Commission is that, at present, it is not possible to modify the existing practice.

20. The complaints made of the want of space and alleged mismanagement at the Jetties are very fully discussed by the Commission. Definite recommendations are made with reference to (1) large increase in the accommodation by the erection of sheds of two and three storeys in place of the present single storeyed ones; (2) the rearrangement of the Railway lines and the provision of hydraulic capstans, &c.; (3) new warehouses for uncleared goods; (4) new cranes, and other matters, in order to improve the facilities for clearing goods. Recommendations are also made about the system of Jetty management, and about the accounts kept in the sheds and warehouses. Certain recommendations are made concerning the rates and charges.

21. Concerning the accommodation for the coasting trade, the Commission recommends the erection of two jetties on the embankment now used for this trade, which

would be a substantial improvement on existing arrangements. In the case of the inland vessels wharves, the Commission recommends that the Port Trust should provide sufficient shed accommodation for inland vessels traffic as they do for ocean-going steamers. Various recommendations are made with reference to the rates, charges and accounts connected with the Tea Warehouse and Petroleum wharves. All these questions are, primarily, for the consideration of the Commissioners of the Port. They will, no doubt, submit to Government estimates for carrying out such works as may appear to them desirable.

22. Concerning the Strand Bank lands the Commission makes suggestions concerning the rents and charges, which will increase the revenue of the Trust.

## STRAND BANK LANDS.

23. The Commission makes an important suggestion regarding the scale of charges for mooring hire which, it is suggested, ought to be revised. The present scale was fixed in 1873, when the average tonnage of vessels was much less than at

## HARBOUR MASTER'S DEPARTMENT.

24. The Commission makes an important suggestion regarding the scale of charges for mooring hire which, it is suggested, ought to be revised. The present scale was fixed in 1873, when the average tonnage of vessels was much less than at



present. Vessels over 3,000 tons, which now visit the port in considerable numbers, pay at present a uniform rate of Rs. 15 a day only. A suitable sliding scale of rates would bring in a considerable increase in revenue. The Commission also recommends a revision of the charges as between Government and the Port Trust of the River and Dock Police, which the Lieutenant-Governor will be glad to consider if definite proposals are submitted to him.

#### PORT TRUST RAILWAY.

24. Important suggestions are made concerning the management of the

Page 23, paragraph 86.

Railway. In this matter the report of the Sub-Committee of Experts is especially valuable. In the first place, the Commission recommends that the main line, along the river face from Cossipore to the Docks, should be improved in various ways, but that the chief thing is to provide two clear lines for up and down traffic by rearrangement of the sidings.

25. The view has been expressed, in some quarters, that the management

Paragraphs 92, 94 and 99, page 26, 26.

and working of the Port Trust Railway is not a function of the Port Trust at all, but that it would be better if the entire railway were given over to one of the large Railway Administrations. This opinion does not find favour with the Commission. One member of the Commission, whose opinion carries much weight, proposed that the foreshore line from Cossipore to the Dock should be made over to the E. B. Railway, but the majority of the Commission were opposed to this proposal, mainly on the ground that the intervention of a foreign railway in the business of the port would not be beneficial. Again, certain members of the Commission recommended that the working of the Dock junction, which is a short section of the railway, which takes off from the Budge-Budge branch of the Eastern Bengal State Railway and runs to the Docks, should be handed over to a Railway Administration to work. On this subject the Commission is not unanimous in their recommendation, but the majority are opposed to the proposal, and recommend that the junction should remain under the jurisdiction of the Port Trust. It is said:—

“Our principal reason is that it is in our opinion altogether against the best interests

Paragraph 99, page 26.

of the port to allow the terminal arrangements to pass in any way out of the control of the Port Trust and into the hands of a foreign agency, specially one whose primary object must necessarily be the earning of dividends rather than the provision of facilities for trade. No such alteration of the authority of the Trustees would, in our judgment, be justifiable, unless it were conclusively shown to be necessary on either administrative or financial grounds or both. In the present case this has not been done.”

On this question the Lieutenant-Governor is of opinion that the views expressed by the majority of the members of the Commission are right.

#### KIDDERPORE DOCKS.

26. The Commission points out that these Docks have absorbed more than half the capital debt of the Port Trust, and that any financial difficulties of the Trust centre round them. Since the Docks came into general use in 1897-98, the annual deficits, including the charges on the debts, have been:—

				Rs.
1897-98 actuals	...	...	...	15,37,394
1898-99 „	...	...	...	14,67,949
1899-1900 „	...	...	...	14,42,111
1900-1901 estimated	...	...	...	13,09,401

The deficits, though large, show a steady tendency to slow improvement.

Page 29, paragraph 112.

But the sinking fund on the original Government Dock loan of Rs. 2,87,70,568 does not come into effect until 1910, a fact which has to be borne in mind in regarding the above deficits. The figures show the importance of efficiency and economy in the Dock management.

27. The Commission mentions the original scheme of a second Dock, and, referring to the question of the present accommodation for ships taking



general cargo (excluding coal), estimates that the total volume of general cargo dealt with at the Docks, during the last two years, was less than one-third of that which could have been dealt with, and the opinion is expressed that any expansion of the accommodation for general cargo will not be necessary for many years to come. The report then continues:—

“When, however, expansion does reach the point at which additional berths become a necessity, these can readily be provided by gradual extension in a way similar to that in which the coal berths have been constructed. The accommodation can be kept a little in advance of the traffic by the provision of one or two berths at a time. No large capital expenditure is, therefore, required at present; and if it should be needed hereafter, it can be foreseen and spread over a number of years.

28. Concerning the coal trade, the Commission has presented most interesting information. This is the most important individual trade for which accommodation is provided at the Docks, and it is one which was not contemplated at all when the Docks were constructed. The Commission points to the rapid development of the trade in export coal as evidenced by these figures:—

		1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.
Total exports*	Tons ...	815,533	1,103,760	1,622,564	1,799,414	1,681,919
Shipped from the docks.	Tons ...	105,842	386,490	672,747	877,895	870,347
	Percent- age.	12.9	35.0	41.4	48.8	51.7

while the total in the year 1900 reached 2,345,758 tons. The Commission considered various estimates of the probable further extension of the trade, and reached the conclusion, based, mainly, on figures supplied by Mr. Cable, that the rapid increase of the past few years was not likely to be maintained, and that the total probable exports from Calcutta during the next two or three years will, probably, not exceed 3,000,000 tons, of which, possibly, 2,300,000 tons may pass through the Kidderpore Docks.

29. The Commission points out that the four existing berths at the Docks are capable of dealing with more than 1,200,000 tons a year, and that the two new berths, now under construction, will provide, even with coolie labour, for 600,000 tons more. Mechanical appliances for loading coal are about to be introduced, which will increase this total delivery materially, and, if two berths only are provided with such machinery, the Kidderpore Docks will be able to ship 2,400,000 tons a year, which is above the estimate, made by the Commission, of the probable demands on the Docks. The Commission recommends that two berths only should be provided with mechanical appliances for loading, which, it is thought, should be sufficient for the necessities of the near future.

30. The Commission refers to the proposals which have been made to establish a separate Dock for coal alone, and remarks that such schemes can only be justified if it can be shown that the result would be an economy in the charges on the trade. It is said:—

“The trade of the Port must eventually bear the whole of the charges involved in such proposals. As long as existing arrangements suffice—and we believe they will suffice for many years to come—any proposal for large capital expenditure elsewhere to supplement them seems altogether premature. We have no desire to dogmatize on so uncertain a matter, and we are perfectly alive to the possibility that our forecast of the future course of the coal trade may be falsified by results. But it is the best we have been able to make after careful weighing of the information placed before us. And if, as we anticipate, it proves to be approximately correct, we are clearly of opinion that the total volume of the export trade in coal, present and prospective, is not sufficient to make it economical or necessary to divide it between two ports of shipment.”

The information collected by the Commission with reference to the coal trade, is of great value. It is now manifest that the Port Commissioners were wise in making provision for the two additional coal berths only, which are being constructed. There is every reason to think that they are likely to be sufficient for some time to come. It is clear also that the Kidderpore Docks will be easily able to provide the facilities which the trade is likely to demand, at a far less cost and in a far more convenient manner, than an

\* Includes bunker coal.

entirely new Dock, at another site, could do. The Port Commissioners have decided, on the advice of a Committee, which reported on the mechanical loading question, to fit one of the new berths, at once, with loading machinery of the type which is the less expensive of the two systems which were proposed, and with reference to the other berth, to await the experience gained in the first case. The Lieutenant-Governor has approved this decision, and he is constrained, with regret, to agree in the general conclusions which the Commission has reached regarding the coal trade. The facts and opinions, which have been recorded, will be of great assistance to the firms engaged in that trade.

31. The Commission gives its support to the system of labour supplied by contractors, which is current in the Docks, rather than to that of departmental labour which has been advocated. Very little is said about the cost of the present system, except that, in the case of the coal labour, the Commission says that there is no evidence to show that the payments are excessive, and in reference to the

cost of handling other goods, which is paid to contractors, that the 6½ annas per ton appears to be excessive. The Lieutenant-Governor considers that this question of the cost of labour merits the further and special consideration of the Port Trust.

32. After making various proposals concerning other matters connected with the administration of the Docks, the Commission refers to the supervising staff entertained there, and suggests that material reductions in the staff should be made which might effect an economy of about Rs. 40,000 a year in the working expenses, irrespective of other possible reductions.

#### WORKSHOP AND STORES.

33. The Commission recommends that the Workshop and the Stores Department should be transferred from the supervision of the Deputy Conservator and placed under the Engineer. It would appear that the Commission doubts whether the administration of these Departments is as economical, in some respects, as it might be, and suggests that expert advice may be taken as to the administration of the Workshops and as to the possibility of reorganising the staff of Mechanical Engineers. The method under which repairs are carried out, without the previous preparation of estimates, is faulty, and should be corrected.

#### GENERAL.

34. The Commission makes many subsidiary recommendations which are not mentioned in this note, and in concluding the report the Commission refers to all its criticisms and proposals in these words:—

“We by no means wish to leave the impression that the management of the Trust, as a whole, calls for condemnation. It is probable that if a close investigation were to be made into the working of other large commercial or public undertakings in this country or elsewhere, there are very few which would emerge scatheless in every point of detail. That the Port Commissioners have sometimes made mistakes in the past they would themselves doubtless freely admit. They have sometimes failed to accurately forecast the course of trade. There has been some tendency to extravagance in respect of establishments, repairs and contingent charges. There has occasionally been delay in providing the full facilities required for particular branches of trade. They have not always employed their resources to the best possible advantage. To these defects we have adverted in the course of our report, adding such suggestions for improvement as recommend themselves to us.”

“But neither individually nor collectively are they of sufficient weight or importance to form the basis of any general charges of either insufficiency or disregard of economy. On the contrary, it is our unanimous opinion that, as a whole, the work of the Trust has been well done, and that, to use the words of our Sub-Committee, the Trustees ‘have not been unmindful of the duty, which lies on them, of improving facilities and of providing in advance for the expansion of traffic.’”

35. In this conclusion the Lieutenant-Governor concurs. In his Resolution appointing the Commission he said that the complaints before him did not contain the information which would lead him to doubt the efficiency of the



Port Commissioners' management. The Commission's report discloses certain specific instances of mismanagement and miscalculation, but certainly disproves the general and sweeping charge of mismanagement brought against the Commissioners in some quarters. The Calcutta Port Trust is an enormous undertaking, and is annually expanding. That it should have emerged from so minute an examination with so large a degree of credit, is, in the opinion of the Lieutenant-Governor, an outcome which the Commissioners and their officers may view with satisfaction. He desires to express his warm appreciation of the services rendered to the Port of Calcutta and to the commercial community by the members of the Commission, who have given so much time and labour to the report they have submitted. The work must have been a heavy one to all, and not least to those gentlemen who have given their services freely for the public advantage at the expense of their own private interests and business. The report is a most thorough one, and it cannot fail to materially aid in the future good management of the Trust to the great advantage of the trade of Calcutta and of India.

By order of the Lieutenant-Governor of Bengal,

R. B. BUCKLEY,

*Secretary to the Government of Bengal.*



## WEATHER AND CROP REPORT.

For the week ending the 1st April 1901.

**Burdwan.**—Rainfall at Raniganj 0·01. Weather seasonable. Pressing of sugarcane and harvesting of *rabi* continue. Fodder and water sufficient. Common rice selling as follows:—

	Srs.
Sadar	12
Kalna	10 $\frac{5}{16}$
Katwa	12 $\frac{5}{8}$
Raniganj	12 $\frac{1}{2}$

} per rupee.

**Birbhum.**—No rain. Weather hot. Harvesting of *rabi* crops over. Pressing of sugarcane continues. *Til* being sown. Price of rice at Sadar and Rampur Hat 12 $\frac{1}{2}$  seers per rupee. Fodder sufficient.

**Bankura.**—No rain. Weather seasonable. Pressing of sugarcane continues. Fodder dear. Water sufficient. No cattle-disease reported. Price of common rice at Bankura and Vishnupur 12 $\frac{1}{2}$  seers per rupee.

**Midnapore.**—No rain. Sugarcane being pressed. Common rice sells as follows:—

	Srs.
Sadar	13
Contai	13
Tamluk	11
Ghatal	Report not received.

} per rupee.

**Hooghly.**—No rain. Pressing of sugarcane nearly finished. Ploughing of winter paddy-fields continued. Prospect of standing crops good. Common rice sells at 10 seers 11 chitaks per rupee.

**Howrah.**—No rain. Weather hot. Fodder and water sufficient. Common rice sells at 10 seers per rupee.

**24-Parganas.**—Rainfall nil. Weather seasonable. Transplantation of *boro* in Barasat subdivision going on. No cattle-disease. Fodder and water sufficient. Common rice sells as follows:—

	Srs.
Sadar	10
Barasat	10
Basirhat	10
Diamond Harbour	10 $\frac{1}{2}$

} per rupee.

**Nadia.**—No rain. Weather seasonable. Cultivation of lands for *aus* going on, but rain wanted. Fodder and water sufficient except in Chuadanga. Common rice sells as follows:—

	Srs.
Sadar	10 $\frac{3}{4}$
Kushtia	12
Meherpur	10 $\frac{3}{4}$
Chuadanga	11 $\frac{3}{4}$
Ranaghat	10

} per rupee

**Murshidabad.**—No rain. Weather hot. Prospects of *rabi* not very favourable. Cattle-disease still reported from Gowas thana. Fodder and water sufficient. Common rice sells as follows:—

	Srs.
Sadar	13
Jangipur	13 $\frac{1}{4}$
Kandi	14
Ialbagh	12 $\frac{3}{4}$

} per rupee

**Jessore.**—No rain. Weather seasonable. Pressing of sugarcane going on. Rain is badly wanted for the ploughing of lands. Fodder and water sufficient. Common rice sells as follows:—

	Srs.
Sadar	11
Jhenida	11
Magura	10 $\frac{1}{2}$
Narail	10
Bangaon	12 $\frac{5}{16}$

} per rupee.

**Khulna.**—Rainfall nil. Weather—day hot, night cool. Preparation of lands for early rice crop continues. Prospects of *boro* fair, but rain wanted. Fodder and water sufficient. Common rice sells as follows:—

	Srs.	
Sadar ... ..	11½	} per rupee.
Bagerhat ... ..	13	
Satkhira ... ..	9½	

**Rajshahi.**—Weather seasonable. Rain wanted. Prospects of crops good. No cattle-disease. Fodder and water ample. Common rice selling at 13½ seers a rupee.

**Dinajpur.**—Rainfall nil. Weather hot. Stray cases of cattle-disease in some thanas. Fodder and water plentiful. Cultivation of *bhadoi* and jute commencing. Rice sells at 14 seers per rupee in Dinajpur town and 14½ seers in mufassal.

**Darjeeling.**—Rainfall at Darjeeling 16, Kalimpong 41, Kurseong and Siliguri nil. Weather seasonable. *Hills*—*phapor*, wheat, barley, potatoes progressing. *Terai*—Harvesting of sugarcane and tobacco proceeding. Common rice sells as follows:—

	Srs.	
Hills ... ..	9	} per rupee.
Terai ... ..	13	

*Bhutta* sells at Darjeeling 18 seers and at Kalimpong 20 seers per rupee.

**Jalpaiguri.**—Rainfall nil. Weather seasonable. Harvesting of tobacco going on. Fields are being prepared for *bhadoi* and jute. Common rice sells at 11½ seers a rupee. Fodder and water sufficient.

**Rangpur.**—Rainfall nil. Weather seasonable. Sowing of *aus* and jute retarded. Rain wanted. Fodder and water sufficient. Common rice sells as follows:—

	Srs.	
Sadar ... ..	11	} per rupee.
Gaibanda ... ..	11	
Kurigram ... ..	13	
Nilphamari ... ..	13	

**Bogra.**—No rain. Ploughing for *aus* and jute continuing. Weather hot. Rain wanted. Fodder and water sufficient. Common rice sells at 12½ seers per rupee.

**Pabna.**—Rain nil. Weather excessively hot in the daytime though mornings and nights are cool. Prospects of crops fair, but rain urgently wanted. Sowings of jute commenced in a few places. Prices practically unchanged. Fodder and water sufficient.

**Dacca.**—Rainfall at Sadar 01, Manikganj nil, Munshiganj 16, Narainganj 25. Weather seasonable. Prospects of crops fair. Rain wanted. Fodder available. Cattle-disease reported from Manikganj subdivision. Common rice 10½ seers per rupee.

**Mymensingh.**—Rainfall nil. Weather seasonable. *Boro* paddy needs rain. Lands have been ploughed. Common rice sells as follows:—

	Srs.	
Sadar ... ..	9	} per rupee.
Jamalur ... ..	9½	
Kishoreganj ... ..	9½	
Tangail ... ..	10½	
Netrakona ... ..	8½	

**Faridpur.**—Rainfall at Sadar 0.04, Goalundo 0.18, Madaripur 0.43. Weather getting warm. Rain wanted badly. Prospects of crops depend on the rain. Common rice sells at 11½ seers a rupee.

**Backergunge.**—Rainfall at Sadar 1.55. Weather seasonable. Prospects of crops good. Fodder and water sufficient. No cattle-disease reported. Common rice (*aman*) sells at 11 seers per rupee.

**Tippera.**—No rain. Weather hot. Prospects of crops indifferent for want of rain. Fodder available. Drinking water getting scarce at Brahmanbaria. Cattle-disease reported from Chandpur and Hajiganj thanas. Common rice sells at 10½ seers per rupee.

**Noakhali.**—Rainfall at Sadar nil, Feni 0.4. Sowing of *aus* commenced. Prospects of standing crops medium. Rain wanted. Cattle-disease reported from Begamganj and Senbag. Fodder and water sufficient. Price of common rice unchanged.

**Chittagong.**—No rain. Water and fodder becoming scarce. Rice selling at 12½ seers per rupee.

**Patna.**—Rainfall nil. Harvesting of *rabi* and lancing of poppy going on. Threshing of *rabi* in progress. No cattle-disease. Fodder and water for cattle sufficient. Common rice sells at 14 seers per rupee in Patna town.

**Gaya.**—Rainfall nil. Harvesting of *rabi* going on. Collection of opium finished. Common rice selling at 11½ seers per rupee.

**Shahabad.**—No rain. Weather seasonable. Harvesting of *rabi* and pressing of sugarcane in progress. Fodder and water sufficient. Rice 11 seers a rupee at Sadar.

**Saran.**—Rainfall nil. Weather seasonable. Harvesting of *rabi* finished. Threshing going on. Fodder and water sufficient. Common rice 13 seers 1 chitak and maize 22½ seers per rupee.

**Champan.**—Rainfall nil. Weather seasonable. Harvesting of *rabi* still continues. Collection of opium approaching completion. Prospects good. Fodder and water sufficient. Prices of common rice and maize at Sadar are 14½ and 23 seers per rupee respectively.

**Muzaffarpur.**—Rainfall nil. Harvesting of *rabi* crops continued. Prospects good. Prices are—Common rice 13 seers, wheat 10 seers, barley 21 seers, maize 23 seers, gram 12 seers, *arhar* 13 seers a rupee.

**Darbhanga.**—Rainfall nil. Harvesting of *rabi* in progress. No cattle-disease reported. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	15½	} per rupee.
Samastipur	...	...	...	15	
Madhubani	...	...	...	15⅞	

**Monghyr.**—No rain. Weather seasonable. Harvesting of *rabi* and plantation of sugarcane going on. Lands being prepared for *bhadoi* crops. Common rice sells as follows:—

				Srs. ch.	
Sadar	...	...	...	13 2	} per rupee.
Begusarai	...	...	...	13 0	
Jamui	...	...	...	12 0	

**Bhagalpur.**—Weather hot. *Rabi* being harvested. *Bhadoi* being sown in some parts of the district. No cattle-disease. Fodder and water sufficient. Prices stationary.

**Purnea.**—No rain. Weather seasonable. Wheat, gram and tobacco being harvested. Outturn good. Lands being prepared for *bhadoi* and jute crops. No cattle-disease. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	13	} per rupee.
Kishanganj	...	...	...	13	
Araria	...	...	...	15	

**Malda.**—Rainfall nil. Weather—mornings cool, days hot. Gathering of gram and other *rabi* crops still going on. *Bhadoi* paddy is being sown. *Boro* paddy is being watered. No cattle-disease. Price of rice stationary. Fodder and water sufficient.

**Sonthal Parganas.**—No rainfall. Weather hot. *Rabi* being harvested. Cattle-disease at Godda and Rajmahal. Fodder and water-supply sufficient. Rice sells at 13 seers 9 chitaks and maize 20 seers 10 chitaks a rupee. Pakaur report not received.

**Cuttack.**—Rainfall nil. Weather seasonable. *Dalua*, tobacco and *rabi* being harvested. Condition of cattle generally good. Fodder and water available. Common rice sells as follows:—

				Srs. Ch.	
Sadar	...	...	...	14 1	} per rupee.
Jajpur	...	...	...	15 12	
Kendrapara	...	...	...	15 12	
Banki	...	...	...	15 12	

**Balasore.**—Rainfall nil. Harvesting of *rabi* continues. Sugarcane pressing in progress. Ploughing continues. Rice sells at 15½, 13½ and 17 seers per rupee in interior, Balasore, and Bhadrak, respectively. Fodder and water sufficient.

**Angul.**—No rain. Weather seasonable. Plantation of sugarcane continued. Common rice selling at 20 and 10 seers in Angul and Khondmals respectively. Cattle-disease reported from the interior. Fodder and water sufficient.



**Puri.**—Rainfall at Sadar 0·22. Weather seasonable. Ploughing continues. *Dalua* paddy ripening. *Mung* and other miscellaneous crops doing well. Fodder and water sufficient. No cattle-disease reported. Price of rice stationary.

**Hazaribagh.**—Rainfall nil. Weather seasonable. Fodder and water sufficient. Common rice sells both at Sadar and Giridih at 12½ seers per rupee. Dropping of *mahua* commenced.

**Ranchi.**—Rainfall nil. Weather seasonable. Harvesting of *rabi* crops in progress. Average price of common rice is 16 seers per rupee. No cattle-disease reported. Fodder and water sufficient.

**Palaman.**—Rainfall at Sadar Station 0·10. Weather seasonable. Sugarcane doing well. Fodder and water sufficient. Prices are—Rice 11 seers 4 chitaks and *makai* 14 seers 10 chitaks a rupee at Sadar.

**Manbhum.**—Rainfall at Sadar 0·01. Weather seasonable. Prospects of crops on ground good. Fodder and water sufficient. Cattle-disease reported from Baghmundi. Average price of common rice at Sadar 13 seers 3 chitaks per rupee. Supply sufficient. (Report from Gobindpur not received.)

**Singhbhum.**—Report not received.

**General Summary.**—Light showers are reported from the districts of Burdwan, Dacca, Faridpur, Backergunge, Noakhali, Puri, Palamau and Manbhum. Rain is wanted in several districts. Harvesting of *rabi* and pressing of sugarcane approaching completion. Preparation of lands for early rice and jute crops continues. Prospects of crops depend on rain. Dropping of *mahua* commenced. Fodder and water sufficient except in Chittagong, Bankura and in the Chuadanga subdivision in Nadia. Cattle-disease continues to be reported from a few districts. The price of common rice has risen in 11 districts, fallen in 8, and is stationary in the rest.

By order of the Lieutenant-Governor of Bengal,

F. A. SLACKE,

Secretary to the Govt. of Bengal.

REVENUE DEPARTMENT,

The 2nd April 1901.

**Results of the Meteorological Observations taken at the Alipore Observatory from  
24th to 30th March 1901.**

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
Mar.	24th	149.8	9.1	29.871	85.5	98.1	21.9	76.2	74.0	0.689	68.1	59	W by N and W&W.	414	Nil	Morning partial cloudy. Day at night clear.
"	25th	151.1	9.5	84.6	84.9	98.3	23.1	75.2	73.1	.661	66.9	59	SSW and WNW...	137	"	Clear.
"	26th	149.6	9.3	894	81.6	96.5	28.4	68.1	68.8	.535	60.8	54	WNW, SW and Calm.	74	"	Clear.
"	27th	150.0	9.7	886	81.7	97.3	27.9	69.4	71.1	.621	65.1	66	WSW and W ...	84	"	Clear.
"	28th	152.5	9.7	856	83.0	98.5	27.1	71.4	70.7	.589	63.6	58	WNW and Calm...	88	"	Clear.
"	29th	152.3	9.2	835	83.3	99.7	31.7	68.0	69.4	.533	60.8	46	NNW and Variable.	83	"	Clear.
"	30th	153.6	9.0	857	85.6	100.9	29.4	71.5	71.8	.595	63.8	48	NNW and WNW	96	"	Chiefly clear.

The mean pressure of the seven days	...	...	...	...	Inches.
The average pressure of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	29.864
The total number of hours of bright sunshine	...	...	...	...	Hours.
The maximum possible number of hours of sunshine	...	...	...	...	65.5
The mean temperature of the seven days	...	...	...	...	83.7
The average temperature of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	83.5
The extreme variation of temperature	...	...	...	...	32.9
The maximum temperature	...	...	...	...	100.9
The highest velocity of the wind in one hour	...	...	...	...	Miles.
The mean relative humidity	...	...	...	...	14
The average relative humidity of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	%
The total fall of rain from 24th to 30th March 1901	...	...	...	...	56
The average fall of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	66
The total fall from 1st January to 30th March 1901	...	...	...	...	Inches.
The average fall of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	Nil.
The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph, and from eye observations.	...	...	...	...	0.20
The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended four feet above the ground.	...	...	...	...	3.26
The barometer readings are corrected approximately to those of the standard, Newman's No. 86, formerly at the Surveyor-General's Office.	...	...	...	...	2.77
The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.	...	...	...	...	
The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.	...	...	...	...	
The mouth of the rain-gauge is one foot above the ground.	...	...	...	...	

METEOROLOGICAL OFFICE, GOVT. OF INDIA,  
Alipore (Calcutta), the 1st April 1901.

G. W. KÜCHLER,  
For Meteorological Reporter to the Govt. of India  
and Director-General of Indian Observatories.

## EASTERN BENGAL STATE RAILWAY.

*Abstract of Principal Commodities carried over the Eastern Bengal State Railway during the month of December 1900 as compared with the same month of previous year.*

STATES.	1900.		1899.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1900.	1899.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Apparel, including drapery, haberdashery, millinery, uniforms, accoutrements, boots and shoes.	119	17	.....	.....	136	.....	36	.....
Coal and Coke carried for the Public and Foreign Railways.	14,085	15,908	10,990	10,397	25,083	21,387	3,696	.....
Cotton, raw	66	104	69	234	170	303	.....	133
Cotton, manufactured—								
Twist and yarn, European	200	.....	139	.....	200	139	70	.....
Ditto, Indian	125	50	159	97	175	256	.....	81
Piece-goods, European	1,031	8	1,440	9	1,631	1,449	180	.....
Ditto, Indian	108	5	85	.....	113	85	28	.....
Others	.....	.....	.....	.....	.....	.....	.....	.....
Chemicals, excepting saltpetre	14	.....	.....	.....	14	.....	14	.....
Drugs—								
Intoxicating, other than opium	1	3	.....	.....	4	.....	4	.....
Non-intoxicating—								
Medicinal preparations	.....	.....	.....	.....	.....	.....	.....	.....
Others	67	15	82*	14	82	96	.....	14
Dyes and Tans—								
Al (Morinda citrifolia)	.....	.....	.....	.....	.....	.....	.....	.....
Alizarine and Aniline dyes	.....	.....	.....	.....	.....	.....	.....	.....
Cutch	20	.....	18	4	30	22	.....	8
Indigo	.....	39	.....	196	39	196	.....	157
Myrabolams	.....	.....	.....	.....	.....	.....	.....	.....
Tanning barks	.....	.....	.....	.....	.....	.....	.....	.....
Turnerie	11	189	19	123	200	142	58	.....
Others	7	13	6	.....	20	6	14	.....
Fodder—								
Oats	33	536	.....	.....	569	.....	569	.....
Hay, straw and grass	971	948	.....	.....	1,919	.....	1,919	.....
Fruits and vegetables, fresh	86	547	.....	.....	633	.....	633	.....
Grain and pulse—								
Gram and pulse	1,176	3,558	1,225	7,752	4,734	8,977	.....	4,243
Jawar and bajra	.....	.....	.....	.....	.....	.....	.....	.....
Rice in the husk	535	3,223	710	2,976	3,758	3,680	78	.....
Do. not in the husk	3,416	2,891	4,296	8,095	7,317	12,391	.....	5,074
Wheat	45	235	13	78	280	91	189	.....
Do. flour	174	.....	.....	.....	174	.....	174	.....
Others	54	40	40	207	94	337	.....	243
Hides and skins—								
Hides of cattle—								
Dressed or tanned	.....	.....	.....	.....	.....	.....	.....	.....
Raw	33	623	40	742	606	782	.....	120
Skins of sheep and other animals—								
Dressed or tanned	.....	.....	.....	.....	.....	.....	.....	.....
Raw	2	69	2	78	71	80	.....	9
Horns	5	2	2	3	7	6	.....	.....
Hemp (Indian) and other fibres, excluding jute.	2	.....	.....	.....	2	.....	2	.....
Jute—								
Raw	240	65,128	123	45,316	65,468	45,419	19,859	.....
Gunny-bags and cloth	686	1,364	906	965	2,650	1,811	239	.....
Lac	5	60	.....	108	63	108	.....	43
Leather—								
Unwrought	.....	.....	61	.....	4	61	.....	57
Wrought, excepting boots and shoes	4	.....	.....	.....	.....	.....	.....	.....
Liquors—								
Ale and beer	16	15	19	17	31	36	.....	5
Spirits of all kinds, including country spirit	2	.....	6	.....	2	6	.....	4
Wine	52	.....	55	.....	52	58	.....	6
All other sorts, including toddy and fermented liquor, other than ale and beer.	.....	.....	.....	.....	.....	.....	.....	.....
Metals—								
Brass, unwrought	.....	13	.....	.....	13	.....	13	.....
Do., wrought	173	28	144	69	201	203	.....	2
Copper, unwrought	.....	13	.....	.....	13	.....	13	.....
Do., wrought	11	6	4	.....	17	4	13	.....
Iron and steel { cast	53	.....	76	11	63	87	.....	34
unwrought	.....	.....	.....	.....	.....	.....	.....	.....
wrought	1,071	122	739	40	1,103	779	414	.....
manufactures	413	80	242	20	403	263	231	.....
Others	127	20	86	22	166	193	48	.....
Oils—								
Kerosine	9,512	91	8,808	75	9,603	8,683	920	.....
Castor	5	.....	16	.....	5	16	.....	11
Cocconut	77	.....	69	.....	77	69	8	.....
Mustard and rape	391	13	156	10	404	161	238	.....
Others	20	7	47	.....	27	47	.....	20
Oilseeds—								
Castor	.....	.....	.....	.....	.....	.....	.....	.....
Earthnuts	.....	.....	.....	.....	.....	.....	.....	.....
Linseed	702	162	.....	171	864	171	693	.....
Poppy	.....	.....	.....	.....	.....	.....	.....	.....
Rape and mustard	363	276	126	1,088	639	1,314	.....	675
Til or jujili	81	165	.....	33	236	85	203	.....
Others	7	3	.....	70	10	70	.....	60
Opium	5	.....	.....	.....	5	.....	5	.....
Paper and pasteboard	174	281	102	200	795	422	333	.....
Provisions—								
Dried fruits and nuts	18	1	19	.....	19	19	.....	.....
Ghee	64	11	92	7	75	99	.....	24
Others	438	55	752	883	493	1,635	.....	1,142

\* Includes 9 tons of cinchona bark.



STAPLES.	1900.		1899.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1900.	1899.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Railway Plant and Rolling-stock carried for the Public and Foreign railways—								
Locomotive engines and tenders and parts thereof.	.....	9	.....	.....	9	.....	9	.....
Carriages and trucks and parts thereof ...	1	.....	61	893	1	954	.....	953
Materials—								
Steel rails and fish-plates, sleepers and keys of steel and cast-iron.	40	.....	907	.....	40	907	.....	867
Others	341	10	464	81	351	545	.....	194
Salt	4,425	33	3,698	41	4,458	3,639	819	.....
Saltpetre and other saline substances—								
Saltpetre	2	.....	27	24	2	51	.....	49
Other saline substances	82	68	.....	.....	150	.....	150	.....
Silk, raw—								
Foreign	.....	.....	.....	.....	.....	.....	.....	.....
Indian	.....	3	.....	12	3	12	.....	9
Silk piece-goods—								
Foreign	.....	.....	.....	.....	.....	.....	.....	.....
Indian	.....	.....	.....	.....	.....	.....	.....	.....
Spices—								
Belemnites	544	194	418	143	738	561	177	.....
Cardamoms	.....	75	.....	44	75	44	31	.....
Chillies	385	5	274	31	399	305	85	.....
Ginger	7	63	1	107	70	108	.....	38
Pepper	27	.....	36	.....	27	36	.....	9
Others	47	73	63	54	129	117	3	.....
Stone and lime	922	691	987	1,343	1,613	2,530	.....	717
Sugar—								
Refined or crystallized, including sugar-candy	755	.....	360	.....	755	360	405	.....
Unrefined—								
Sugar	459	27	.....	.....	.....	.....	.....	.....
Gur, rab, jaggery, molasses, and other saccharine produce	872	123	2,532	281	1,481	2,813	.....	1,332
Tea—								
Foreign	.....	.....	.....	.....	.....	.....	.....	.....
Indian	10	3,041	13	2,997	3,051	3,010	41	.....
Tobacco—								
Unmanufactured	103	1,132	93	1,239	1,236	1,332	.....	97
Manufactured—								
Cigars	.....	.....	.....	.....	.....	.....	.....	.....
Other sorts	14	.....	1	.....	14	1	13	.....
Wood—								
Timber, unwrought	404	273	.....	.....	.....	.....	.....	.....
Manufactures	199	35	225	87	911	292	619	.....
Wool—								
Raw	.....	30	.....	26	30	96	.....	66
Manufactured—								
Carpets and rugs	.....	.....	.....	.....	.....	.....	.....	.....
Piece-goods, European	.....	.....	.....	.....	.....	.....	.....	.....
Ditto, Indian	13	.....	8	.....	13	8	5	.....
Other sorts of manufactures	.....	.....	.....	.....	.....	.....	.....	.....
All other articles of merchandise	5,910	2,174	5,172	3,407	5,084	5,579	.....	495
Total	53,318	106,506	47,109	91,044	159,023	128,183	30,840	16,840

CALCUTTA, the 14th March 1901.

A. HYDE WOLLASTON,  
Offg. Examiner of Accounts.

## BENGAL-NAGPUR RAILWAY.

*Abstract of principal commodities carried during the month of October 1900 as compared with the corresponding period of the previous year.*

ARTICLES.	1900.		1899.		Total, 1900.	Total, 1899.	Increase.	Decrease.
	Up.	Down.	Up.	Down.				
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
I.—Apparel, including drapery, haberdashery, millinery, uniforms, accoutrements, boots and shoes.	9	6	...	...	15	...	15	...
II.—Coal and coke carried for the public and foreign railways.	6,801	41,912	10,550	32,921	48,713	43,780	4,933	...
III.—Cotton—								
1. Raw ...	26	98	32	236	124	268	...	144
2. Manufactured—								
(a) Twist and yarn, European	8	22	6	13	30	19	11	...
(b) Ditto, Indian ...	119	829	77	271	948	348	600	...
(c) Piece-goods, European ...	120	77	97	42	197	139	58	...
(d) Ditto, Indian ...	75	345	25	143	420	171	249	...
(e) Others ...	1	3	...	...	4	...	4	...
IV.—Chemicals excepting saltpetre ...	1	12	...	...	13	...	13	...
V.—Drugs—								
1. Intoxicating, other than opium.	1	1	1	1	2	2	...	...
2. Non-intoxicating—								
(a) Medicinal preparations	...	1	...	...	1	...	1	...
(b) Others ...	11	10	7	9	21	16	5	...
VI.—Dyes and Tans—								
1. Al (morinda citrifolia) ...	...	...	...	...	...	...	...	...
2. Alizarine and aniline dyes ...	1	...	...	1	1	1	...	...
3. Cutch ...	3	...	7	2	3	9	...	...
4. Indigo ...	15	1	1	...	16	1	15	6
5. Myrabolams ...	458	6	273	5	464	278	186	...
6. Tanning barks ...	...	7	...	...	7	...	7	...
7. Turmeric ...	27	18	8	8	45	16	29	...
8. Others ...	37	29	4	13	66	17	49	...
VII.—Fodder—								
1. Oilcake ...	20	1	...	...	21	...	21	...
2. Hay, straw and grass ...	1	107	...	...	108	...	108	...
VIII.—Fruits and vegetables, fresh ...	9	49	...	...	58	...	58	...
IX.—Grain and Pulse—								
1. Gram and pulse ...	798	361	2,558	145	1,180	2,703	...	1,544
2. Jowar and bajra ...	7	...	23	19	7	42	...	35
3. Rice in the husk ...	249	105	330	101	354	431	...	77
4. " not in the husk ...	5,911	220	14,090	598	6,161	14,688	...	8,527
5. Wheat ...	2,137	119	2,324	38	2,256	2,362	...	106
6. " flour ...	62	31	...	...	93	...	93	...
7. Others ...	99	43	191	4	142	196	...	53
X.—Hides and skins—								
1. Hides of cattle—								
(a) Dressed or tanned ...	...	...	...	...	...	...	...	...
(b) Raw ...	133	518	129	422	656	551	105	...
2. Skins of sheep and other animals—								
(a) Dressed or tanned ...	...	...	...	...	...	...	...	...
(b) Raw ...	...	11	4	20	11	24	...	13
XI.—Horns ...	6	34	15	12	40	30	10	...
XII.—Hemp (Indian) and other fibres, excluding jute.	1	290	4	...	291	4	287	...
XIII.—Jute—								
1. Raw ...	...	2	1	...	2	1	1	...
2. Gunny-bags and cloth ...	94	149	290	89	242	349	...	107
XIV.—Lac ...	84	423	76	381	506	457	49	...
XV.—Leather—								
1. Unwrought ...	15	1	20	1	16	21	...	5
2. Wrought excepting boots and shoes.	...	1	...	...	1	...	1	...
XVI.—Liquors—								
1. Ale and beer ...	3	42	6	35	45	41	4	...
2. Spirits of all kinds, including country spirit.	6	4	2	6	10	8	2	...
3. Wines ...	7	1	6	3	8	9	...	1
4. All other sorts, including toddy and fermented liquor, other than ale and beer.	...	...	...	...	...	...	...	...
XVII.—Metals—								
1. Brass, unwrought ...	6	1	...	...	7	...	7	...
2. " wrought ...	29	25	19	32	54	51	3	...
3. Copper, unwrought ...	...	...	...	...	...	...	...	...
4. " wrought ...	1	1	1	4	2	5	...	3
5. Iron and steel—								
(a) Cast ...	1	1	2	1	2	3	...	1
(b) Unwrought ...	...	...	...	...	...	...	...	...
(c) Wrought ...	275	180	108	16	455	124	331	...
(d) Manufactures ...	50	37	137	68	87	205	...	118
6. Others ...	794	16	7	23	810	30	780	...
XVIII.—Oils—								
1. Kerosine ...	555	65	141	53	656	194	456	...
2. Castor ...	1	7	1	4	8	6	2	...
3. Coconut ...	12	11	5	1	23	6	17	...
4. Mustard and rape ...	18	1	15	1	19	14	5	...
5. Others ...	39	7	46	3	46	49	...	3

ARTICLES.	1900.		1899.		Total, 1900.	Total, 1899.	Increase.	Decrease.
	Up.	Down.	Up.	Down.				
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
<b>XIX.—Oilseeds—</b>								
1. Castor	1		1	8	1	9		8
2. Earthnuts				1		1		1
3. Linseed	14	7	303	1	317	904		833
4. Poppy	7		4	3	11	7		
5. Rape and mustard	5	6	10	83	15	102		91
6. Til or jingili	40	282	621	246	372	807		545
7. Others	38	74	214	293	112	500		394
<b>XX.—Opium</b>	3	1	5	1	4	6		2
<b>XXI.—Paper and pasteboard</b>	78	4	16	3	82	19	63	
<b>XXII.—Provisions—</b>								
1. Dried fruits and nuts	14	170	11	27	164	38	126	
2. Ghee	48	119	20	145	167	165	2	
3. Others	75	25	109	143	100	315		215
<b>XXIII.—Railway plant and rolling-stock carried for the public and foreign railways—</b>								
1. Locomotive engines and ten- ders and parts thereof.	15		39		15	39		24
2. Carriages and trucks and parts thereof.								
3. Materials—								
(a) Steel rails and fish- plates.	11	1	1		12	1	11	
(b) Sleepers and keys of steel and cast-iron.								
(c) Others	134	1,201	564	3,549	1,433	4,113		2,686
<b>XXIV.—Salt</b>	1,321	2,048	942	635	3,363	1,577	1,786	
<b>XXV.—Saltpetre and other saline sub- stances—</b>								
1. Saltpetre	1		1	118	1	119		118
2. Other saline substances	3	4	7	7	7	14		7
<b>XXVI.—Silk—</b>								
1. Raw—								
(a) Foreign								
(b) Indian	8	6	3	13	14	15		1
2. Piece-goods—								
(a) Foreign								
(b) Indian			1			1		1
<b>XXVII.—Spices—</b>								
1. Betel-nuts	71	14	33	4	85	37	48	
2. Cardamoms	1		1		1	1		
3. Chillies	6	33	3	7	39	10	29	
4. Ginger	1	1	1	1	2	2		
5. Pepper	3	1	3	1	4	4		
6. Others	73	7	85	8	80	93		13
<b>XXVIII.—Stone and lime</b>	72	469	203	1,154	541	1,337		796
<b>XXIX.—Sugar—</b>								
1. Refined or crystallized, includ- ing sugar-candy.	117	219	98	59	336	137	199	
2. Unrefined—								
(a) Sugar								
(b) Gur, rab, laggeri, molasses, and other saccharine produce.	63	85	64	17	148	81	67	
<b>XXX.—Tea—</b>								
1. Foreign								
2. Indian	4	37	1	34	41	35	6	
<b>XXXI.—Tobacco—</b>								
1. Unmanufactured	173	53	133	34	226	167	59	
2. Manufactured—								
(a) Cigars	1	1	1	1	2	2		
(b) Other sorts	6	6	6	10	12	16		
<b>XXXII.—Wood—</b>								
1. Timber, unwrought	349	1,428	504	1,434	1,777	1,938		161
2. Manufactured	5	37			42		42	
<b>XXXIII.—Wool—</b>								
1. Raw								
2. Manufactured	4	4			8		8	
(a) Carpets and rugs	1	1	1	1	2	2		
(b) Piece-goods, European								
(c) Ditto, Indian		3	6	2	3	8		
(d) Other sorts of manufac- tures.								
<b>XXXIV.—All other articles of merchandise—</b>								
1. Firewood	297	158	389	120	455	509		54
2. Bamboos	70	91	53	265	161	308		147
3. Moha	289	50	420	66	339	486		147
4. Others	365	505	890	973	671	1,863		1,192
<b>Total</b>	<b>22,058</b>	<b>53,201</b>	<b>38,358</b>	<b>45,633</b>	<b>76,349</b>	<b>84,201</b>	<b>10,948</b>	<b>18,990</b>
<b>Net decrease</b>								<b>8,645</b>

Calcutta, the 22nd March 1901.

A. GRANTS,  
Auditor, Bengal-Nagpur Railway.



## Weekly Return of Traffic Receipts on Indian Railways.

## EAST INDIAN RAILWAY.

Approximate Return of Traffic for week ended 9th March 1901, on 1,840·32\* miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	392,893	4,02,236 14 0	57,34,420 10	9,76,102 10 0	23,420 0 0	14,01,759 8 0	100,735	198,536	308,271
Or per mile of Railway ...	218 9 1	218 9 1	308 2 1	530 6 5	12 11 7	761 11 1	.....	.....	.....
For previous 8½ weeks of half-year.	3,360,886†	34,04,023 7 0†	4,62,56,888 30†	76,35,428 8 0†	1,86,705 0 0§	1,16,16,156 15 0	937,531	1,643,428	2,580,959
Total for 9½ weeks ...	3,753,779	38,06,269 5 0	5,20,21,309 0	80,11,531 2 0	2,10,125 0 0	1,30,17,916 7 0	1,047,266	1,841,964	2,889,230
COMPARISON.									
Total for corresponding week of previous year.	398,112	4,14,707 13 10	51,12,821 20	10,31,317 7 3	26,377 6 2	14,72,402 11 3	103,374‡	209,639	313,033‡
Per mile of railway corresponding week of previous year.	.....	234 15 4	.....	584 3 0	14 15 1	834 1 5	.....	.....	.....
Total for corresponding 9½ weeks of previous year.	3,543,731‡	37,54,187 15 6	5,06,72,115 0	1,04,93,102 4 6	2,82,009 7 3	1,45,29,389 11 3	1,000,769	1,973,536‡	2,974,305‡

\* The increase of 3·23 miles is due to the opening of Pandra Branch from 26th November 1900.

(b) The decrease is chiefly due to heavier upward despatches of food-grains in the corresponding period of 1900.

† Added No. of passengers 8,494 and deducted Rs. 35,855

‡ Deducted Mds. 6,86,768 and " 1,033

§ Do. " 10,886

|| Audited figures up to 12th January 1901.

On account of difference between the approximate and audited figures for the first 12 days of January 1901.

1901.

Abstract of progressive weekly returns of all earnings for 1901 in comparison with 1900.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.
		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No. Rate.
1,840·32*	13 days of January	547,806	5,51,449	81,59,264	14,01,457	31,123	19,84,034	1,078	504,735 3 14 11
1,837·99	Week ended 19th "	354,816	3,90,308	52,72,154	9,04,870	22,978	13,13,160	718	291,698 4 8 4
1,837·99	" " 26th "	380,439	4,25,231	52,07,815	8,65,768	22,595	13,14,534	716	280,050 4 9 6
1,837·99	" " 2nd Feb. ...	409,401	4,31,632	52,55,142	8,84,319	20,827	13,26,778	722	293,466 4 8 4
1,837·99	" " 9th "	423,272	4,25,147	56,00,779	9,92,553	21,727	14,29,427	778	300,040 4 12 1
1,837·99	" " 16th "	407,460	4,32,282	57,05,506	9,90,315	22,289	14,50,886	790	302,873 4 12 8
1,837·99	" " 23rd "	436,190	4,36,674	53,20,980	9,24,679	22,254	13,83,607	753	304,129 4 8 9
1,837·99	" " 2nd March	408,412	4,11,307	55,85,240	9,74,527	22,907	14,06,741	767	297,459 4 11 9
1,840·32	" " 9th "	392,893	4,02,236	57,34,420	9,76,103	23,420	14,01,759	762	308,271 4 8 9
	Totals up to date ...	3,753,779	38,06,269	5,20,21,309	80,11,531	2,10,125	1,30,17,916	728	2,889,230 4 8 1

Abstract of progressive weekly returns of all earnings for 1901 in comparison with 1900—concluded.

1900.

		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No. Rate.
1,711·61	13 days of January	596,641	6,05,195	87,39,374	18,36,800	46,510	25,48,514	1,489	554,367 4 12 4
1,711·61	Week ended 20th January	320,577	3,31,459	50,37,540	10,71,643	31,629	14,34,731	535	303,813 4 11 7
1,711·61	" " 27th "	322,294	3,52,160	54,02,689	10,85,005	30,904	14,71,129	860	289,257 5 1 4
1,711·61	" " 3rd Feb. ...	389,483	4,34,437	47,13,281	9,61,855	31,898	14,28,190	834	294,217 4 13 8
1,711·61	" " 10th "	331,070	3,07,545	55,03,744	11,24,813	30,517	15,52,575	907	307,000 5 0 11
1,711·61	" " 17th "	386,114	3,84,876	56,07,254	11,34,197	31,416	15,49,489	905	311,727 4 15 6
1,711·61	" " 24th "	359,641	3,78,534	55,79,838	11,05,672	30,341	15,74,547	920	311,158 5 0 5
1,705·99	" " 3rd March	394,800	3,96,184	50,25,004	10,78,800	23,438	14,97,422	848	309,733 4 13 4
1,705·99	" " 10th "	393,112	4,14,798	51,12,821	10,31,317	26,377	14,72,492	834	313,033 4 11 3
	Totals up to date ...	3,543,732	37,54,188	5,06,72,115	1,04,93,102	2,82,009	1,45,29,389	835	2,974,305 4 14 2

## TARKESSUR BRANCH RAILWAY.

Approximate Return of Traffic for week ended 9th March 1901, on 22·23 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	24,688	6,327 5 0	32,246 20	999 0 6	5 0 0	7,321 5 0	1,097	91	1,188
Or per mile of railway ...	284 10 1	284 10 1	.....	43 9 5	0 6 7	328 7 1	.....	.....	.....
For previous 8½ weeks of half-year	217,513*	54,767 2 0*	2,71,524 30†	7,521 14 6†	45 0 6‡	62,334 0 0	2,475§	1,074§	10,549
Total for 9½ weeks ...	242,201	61,094 7 0	3,03,771 10	8,490 14 0	50 0 0	69,635 5 0	10,572	1,165	11,737
COMPARISON.									
Total for corresponding week of previous year	25,657‡	6,156 13 11	32,079 10	1,191 15 0	16 7 9	7,365 4 8	1,010	178	1,188
Per mile of railway corresponding week of previous year	.....	276 15 5	.....	53 9 11	0 11 10	331 5 2	.....	.....	.....
Total for corresponding 9½ weeks of previous year	237,775	58,623 13 2	3,23,361 30	9,478 0 0	92 5 0	68,194 2 2	10,309	2,175	12,563

\* Added No. of passengers 466 and Rs. 14

† Deducted Mds. 36,946 and " 266

‡ Do. " 6

§ Audited figures up to 12th January 1901.

On account of difference between the approximate and audited figures for the first 12 days of January 1901.

## TARKESSUR BRANCH RAILWAY—concluded.

1901.

Abstract of progressive weekly returns of all earnings for 1901 in comparison with 1900.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
22-23*	12 days of January ...	36,281	7,890	24,776	1,113	5	8,917	401	2,068	Rs. A. P.
22-23	Week ending 19th January ...	22,734	5,528	35,924	729	6	6,261	282	1,188	4 5 0
22-23	" " 26th " ...	19,836	5,328	35,721	883	6	6,217	280	1,188	5 4 4
22-23	" " 2nd February ...	23,740	6,007	34,494	794	5	6,806	310	1,188	5 3 3
22-23	" " 9th " ...	27,159	6,940	35,816	1,001	5	7,946	344	1,188	5 12 11
22-23	" " 16th " ...	31,540	8,278	35,478	993	6	9,270	417	1,188	5 7 0
22-23	" " 23rd " ...	37,273	9,316	36,392	1,055	6	10,377	467	1,188	7 12 11
22-23	" " 2nd March ...	21,999	5,782	33,964	996	6	6,744	303	1,221	7 13 9
22-23	" " 9th " ...	24,088	6,327	32,246	969	5	7,301	328	1,188	5 8 4
	Totals up to date ...	242,201	61,094	3,03,771	5,401	50	69,635	322	11,737	6 2 4

\* Audited figures.

Abstract of progressive weekly returns of all earnings for 1901 in comparison with 1900—concluded.

1900.

		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
										Rs. A. P.
22-23	12 days of January ...	38,432	5,599	35,944	1,571	10	10,416	469	2,345	4 7 1
22-23	Week ending 26th January ..	19,749	4,615	14,467	665	10	5,130	231	1,596	3 3 5
22-23	" " 27th " ...	21,810	5,216	72,105	1,057	15	6,288	253	1,298	4 13 6
22-23	" " 3rd February ...	21,623	5,226	18,974	781	7	6,014	271	1,188	5 1 6
22-23	" " 10th " ...	22,910	5,090	87,582	1,102	8	6,797	306	1,188	5 11 7
22-23	" " 17th " ...	28,611	7,274	33,574	1,077	5	8,356	376	1,188	7 0 6
22-23	" " 24th " ...	23,932	5,694	33,293	1,249	7	6,859	398	1,188	5 12 3
22-23	" " 3rd March ...	34,442	9,953	23,410	1,014	11	10,978	494	1,366	7 14 6
22-23	" " 10th " ...	24,657	6,157	32,079	1,192	16	7,365	331	1,188	6 3 2
	Totals up to date ...	237,775	58,624	5,23,362	9,478	92	68,194	311	12,568	5 6 10

## DELHI-UMBALLA-KALKA RAILWAY.

Approximate Return of Traffic for week ended 9th March 1901, on 162.24 miles open

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	17,602	Rs. A. P. 16,916 13 0	Mds. s. 1,75,932 20	Rs. A. P. 14,200 4 0	Rs. A. P. 69 0 0	Rs. A. P. 31,195 1 0	7,567	3,787	11,354
Or per mile of railway ...	104 3 4	104 3 4	104 3 4	87 2 4	0 0 0	192 4 5	46 6	23 2	69 8
For previous 8 weeks of half-year ...	144,351*	1,22,443 15 0*	12,11,310 0†	1,02,822 0 0†	535 0 0‡	2,25,900 15 0	67,429‡	31,168‡	98,597
Total for 9 weeks ...	161,953	1,39,360 12 0	13,87,842 20	1,17,031 4 0	604 0 0	2,56,996 0 0	74,996	34,955	109,951
COMPARISON.									
Total for corresponding week of previous year ...	20,654	19,378 0 3	67,050 30	11,644 2 0	68 6 9	31,091 0 0	8,410‡	3,491	11,901
Per mile of railway corresponding week of previous year ...	124 7 1	119 7 1	412 10 0	71 12 4	0 6 9	191 10 2	51 6	21 5	72 11
Total for corresponding 9 weeks of previous year ...	158,492	1,36,209 8 2	8,98,607 10	1,09,539 11 3	681 3 9	2,46,490 7 2	72,618	33,490‡	106,108

\* Added No. of passengers 817 and Rs. 246. On account of difference between the approximate and audited figures for the first 12 days of 1901.  
 † Deducted Mds. 1,17,023 and Rs. 1,449. On account of difference between the approximate and audited figures for the first 12 days of 1901.  
 ‡ Audited figures up to 12th January 1901.

1901.

Abstract of progressive weekly returns of all earnings for 1901 in comparison with 1900

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
162-24*	12 days of January ...	26,763	22,477	1,25,266	16,290	65	38,838	239	20,837	Rs. A. P.
162-24	Week ended 19th January ...	15,354	12,114	1,42,393	12,548	65	24,797	162	11,258	1 13 11
162-24	" " 26th " ...	14,984	11,367	1,00,116	12,598	65	23,943	149	11,096	2 3 2
162-24	" " 2nd February ...	16,992	13,836	1,06,833	12,441	67	26,314	162	10,881	2 4 8
162-24	" " 9th " ...	17,258	16,458	1,03,894	13,940	65	21,763	183	11,061	2 8 10
162-24	" " 16th " ...	17,729	14,911	1,51,806	12,091	65	27,037	167	10,624	2 8 9
162-24	" " 23rd " ...	17,678	15,134	1,43,654	9,546	72	24,762	165	11,032	2 3 11
162-24	" " 2nd March ...	17,579	16,177	1,57,296	14,172	68	30,417	187	11,308	2 11 6
162-24	" " 9th " ...	17,502	16,917	1,75,933	14,209	69	31,195	192	11,354	2 12 0
	Totals up to date ...	161,953	1,33,361	13,87,243	1,17,031	604	2,56,996	163	102,951	2 6 5

Abstract of progressive weekly returns of all earnings for 1901 in comparison with 1900—concluded.

1900.

		No. of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
										Rs. A. P.
162-24	12 days of January ...	25,523	26,995	1,25,104	22,085	123	49,204	305	19,464	2 8 5
162-24	Week ended 19th January ...	14,277	16,685	78,419	11,799	44	28,525	139	9,672	2 3 3
162-24	" " 27th " ...	14,714	10,423	96,226	10,155	149	20,741	125	8,696	2 3 3
162-24	" " 2nd February ...	14,684	11,936	86,773	9,448	79	21,465	122	8,696	2 1 6
162-24	" " 10th " ...	16,269	13,157	1,19,305	12,308	42	25,507	128	10,288	2 5 5
162-24	" " 17th " ...	16,555	14,946	87,111	9,776	40	21,868	147	10,156	2 5 7
162-24	" " 24th " ...	16,690	15,617	79,348	12,258	62	28,337	154	10,239	2 7 4
162-24	" " 3rd March ...	17,386	16,631	98,509	10,003	77	32,711	165	10,723	2 7 10
162-24	" " 10th " ...	20,954	12,378	67,050	11,645	68	31,091	192	11,902	2 9 10
	Totals up to date ...	158,492	1,36,209	8,98,607	1,09,540	681	2,46,490	154	103,000	2 6 5



## SOUTH BEHAR RAILWAY.

Approximate Return of Traffic for week ended 9th March 1901, on 78.76 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	13,013	Rs. A. P. 6,141 9 0	Mds. S. 52,959 20	Rs. A. P. 3,477 14 0	Rs. A. P. 48 0 0	Rs. A. P. 9,667 7 0	1,931	825	2,756
Or per mile of railway ...	.....	77 15 8	.....	44 2 6	0 9 9	122 11 11	.....	.....	.....
For previous 9½ weeks of half-year ...	94,902*	44,070 12 0*	4,66,085 30†	31,119 14 0†	338 0 0‡	75,548 10 0	15,974§	9,241§	25,215
Total for 9½ weeks ...	107,915	50,212 5 0	5,19,645 10	34,597 12 0	406 0 0	85,216 1 0	17,905	10,066	27,971
COMPARISON.									
Total for corresponding week of previous year ...	13,904‡	7,103 1 5	51,961 10	3,920 1 0	28 7 6	11,051 9 11	1,559	646	2,205
Or per mile of railway corresponding week of previous year ...	.....	90 3 0	.....	49 12 4	0 5 9	140 5 1	.....	.....	.....
Total for corresponding 9½ weeks of previous year ...	114,569	55,984 3 3	5,29,035 10	40,413 8 3	239 1 6	96,636 13 0	15,119	6,781	21,900

\* Added No. of passengers 1,999 and Rs. 698 } On account of difference between the approximate and audited figures for the first 12 days of  
† Deducted Mds. 4,397 and " 1,062 } January 1901.  
‡ Ditto " 28 }  
§ Audited figures up to 12th January 1901.

1901.

Abstract of progressive weekly returns of all earnings for 1901 in comparison with 1900.

Open mileage.	Period.	Coaching Traffic.		Merchandise and Mineral Traffic.		Other earnings.	Total.	Per mile of railway.	Train mileage.	
		Number of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
78.76	13 days of January ...	15,079	8,256	69,742	4,259	47	12,562	160	5,585	2 4 0
78.76	Week ended 19th " ...	10,091	5,127	46,663	4,659	43	9,829	125	2,757	3 9 1
78.76	" " 26th " ...	9,468	4,469	54,334	3,515	42	8,026	102	2,756	2 13 7
78.76	" " 2nd Feb. ...	9,861	4,416	52,019	3,138	43	7,597	96	2,978	2 8 10
78.76	" " 9th " ...	11,290	5,005	51,110	3,154	44	8,203	104	2,699	3 2 6
78.76	" " 16th " ...	11,269	5,909	62,713	4,148	44	9,301	117	3,108	2 15 4
78.76	" " 23rd " ...	12,408	5,827	68,943	4,026	48	10,561	133	2,678	3 14 9
78.76	" " 3rd March ...	12,606	5,962	63,962	3,621	47	9,639	122	2,754	3 7 11
78.76	" " 9th " ...	13,003	6,141	52,959	3,478	48	9,667	123	2,750	3 8 1
	Totals up to date ...	107,915	50,212	5,19,645	34,598	406	85,216	111	27,971	3 0 9

\* Audited figures.

Abstract of progressive weekly returns of all earnings for 1901 in comparison with 1900—concluded.

1900.

		Number of passengers.	Rs.	Mds.	Rs.	Rs.	Rs.	Rs.	No.	Rate.
78.76	13 days of January ...	19,319	9,093	94,726	6,991	54	16,144	205	4,134	3 14 6
78.76	Week ended 26th " ...	9,805	4,425	60,658	4,221	12	8,058	110	2,226	3 13 3
78.76	" " 27th " ...	10,125	4,975	60,095	4,588	21	9,594	122	2,226	4 4 11
78.76	" " 3rd Feb. ...	10,625	5,159	56,604	4,132	22	9,313	118	2,929	4 2 11
78.76	" " 10th " ...	12,247	5,909	54,624	3,633	23	9,605	131	2,229	4 4 9
78.76	" " 17th " ...	13,187	6,444	52,127	4,088	32	10,564	134	2,226	4 11 11
78.76	" " 24th " ...	12,335	6,297	46,451	3,964	24	10,275	130	2,223	4 9 10
78.76	" " 3rd March ...	12,922	6,673	52,791	4,886	23	11,452	140	2,305	6 3 4
78.76	" " 10th " ...	13,904	7,103	51,961	3,920	28	11,051	140	2,305	5 0 2
	Totals up to date ...	114,569	55,984	5,29,035	40,413	289	96,636	124	21,900	4 6 7

## EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., K.-D., DACCA, AND ASSAM-BEHAR SECTIONS.)

Approximate Return of Traffic and Mileage for the week ended 16th March 1901, on 853 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	217,070	Rs. A. P. 1,18,630 0 0	Mds. S. 9,71,240 0	Rs. A. P. 1,27,590 0 0	Rs. A. P. 8,020 0 0	Rs. A. P. 2,54,140 0 0	55,888	37,539	73,427
Or per mile of railway ...	254	139 0 0	1,139 0	150 0 0	*1 0 0	*290 0 0	...	...	...
For previous 10 weeks of half-year ...	2,382,980	11,57,890 0 0	1,06,97,980 0	16,41,500 0 0	1,74,510 0 0	29,73,430 0 0	331,129	389,665	740,794
Total for 11 weeks ...	2,610,000	12,76,420 0 0	1,16,69,220 0	17,68,620 0 0	1,82,530 0 0	32,27,570 0 0	387,917	427,294	814,221
COMPARISON.									
Total for corresponding week of previous year ...	210,175	1,03,105 0 0	10,90,213 0	1,35,467 0 0	10,007 0 0	2,49,179 0 0	36,402	37,220	73,622
Or per mile of railway corresponding week of previous year ...	253	124 0 0	1,310 0	163 0 0	1 0 0	298 0 0	...	...	...
Total to corresponding date of previous year ...	2,457,224	11,89,038 0 0	1,26,36,800 0	17,93,991 0 0	2,35,752 0 0	32,17,781 0 0	392,421	458,954	830,475



## DACCA STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 16th March 1901, on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	23,970	Rs. A. P. 8,340 0 0	Mds. S. 20,640 0	Rs. A. P. 2,250 0 0	Rs. A. P. 100 0 0	Rs. A. P. 10,730 0 0	3,100	1,602	4,702
Or per mile of railway ...	279	97 0 0	310 0	27 0 0	1 0 0	125 0 0	...	...	...
For previous 10 weeks of half-year ...	264,250	83,390 0 0	4,63,170 0	45,340 0 0	1,630 0 0	1,30,410 0 0	28,430	20,480	48,910
Total for 11 weeks ...	288,220	91,730 0 0	4,89,810 0	47,630 0 0	1,780 0 0	1,41,140 0 0	31,530	22,078	53,608
COMPARISON.									
Total for corresponding week of previous year ...	22,419	7,040 0 0	26,432 0	2,242 0 0	53 0 0	9,335 0 0	3,136	1,100	4,236
Per mile of railway corresponding week of previous year ...	261	82 0 0	307 0	26 0 0	1 0 0	109 0 0	...	...	...
Total to corresponding date of previous year ...	269,728	83,080 0 0	3,17,093 0	29,297 0 0	3,323 0 0	1,15,709 0 0	32,462	13,077	45,539

## COOCH BEHAR STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 16th March 1901, on 3373 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	2,030	Rs. A. P. 1,030 0 0	Mds. S. 5,800 0	Rs. A. P. 670 0 0	Rs. A. P. 120 0 0	Rs. A. P. 1,720 0 0	385	11,615	12,000
Or per mile of railway ...	87	30 0 0	175 0	17 0 0	...	*47 0 0	...	...	...
For previous 10 weeks of half-year ...	16,510	6,900 0 0	90,240 0	7,040 0 0	400 0 0	14,340 0 0	3,306	13,623	16,929
Total for 11 weeks ...	19,440	7,930 0 0	96,130 0	7,510 0 0	520 0 0	16,060 0 0	3,691	15,238	18,929
COMPARISON.									
Total for corresponding week of previous year ...	1,937	782 0 0	6,175 0	648 0 0	124 0 0	1,554 0 0	220	663	883
Per mile of railway corresponding week of previous year ...	58	24 0 0	186 0	19 0 0	...	43 0 0	...	...	...
Total to corresponding date of previous year ...	19,484	8,104 0 0	1,08,219 0	9,015 0 0	1,876 0 0	18,093 0 0	2,025	10,202	12,227

\* Excluding coaching ferry.

† Including ballast train-miles 1,152.

## MYMENSINGH-JAGANNATHGANJ RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 16th March 1901, on 5337 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	10,230	Rs. A. P. 2,040 0 0	Mds. S. 8,650 0	Rs. A. P. 400 0 0	Rs. A. P. 10 0 0	Rs. A. P. 3,140 0 0	1,136	348	1,484
Or per mile of railway ...	193	30 0 0	162 0	9 0 0	...	59 0 0	...	...	...
For previous 10 weeks of half-year ...	89,130	22,640 0 0	138,000 0	6,870 0 0	150 0 0	29,660 0 0	10,842	6,273	17,115
Total for 11 weeks ...	99,360	25,280 0 0	146,650 0	7,300 0 0	160 0 0	32,800 0 0	11,978	6,620	18,598
COMPARISON.									
Total for corresponding week of previous year ...	9,291	2,264 0 0	17,769 0	706 0 0	8 0 0	2,978 0 0	1,214	383	1,597
Per mile of railway corresponding week of previous year ...	174	43 0 0	332 0	13 0 0	...	56 0 0	...	...	...
Total to corresponding date of previous year ...	99,892	23,460 0 0	225,572 0	12,878 0 0	160 0 0	36,594 0 0	11,256	6,714	17,970

## BRAHMAPUTRA-SULTANPUR RAILWAY.

*Approximate Return of Traffic and Mileage for the week ended 16th March 1901, on 50 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	6,000	1,740 0 0	10,560 0	970 0 0	30 0 0	2,740 0 0	784	916	1,680
Or per mile of railway ...	102	29 0 0	179 0	16 0 0	1 0 0	46 0 0	...	...	...
For previous 10 weeks of half-year ...	60,570	17,560 0 0	1,60,190 0	14,950 0 0	380 0 0	32,890 0 0	9,716	7,789	17,505
Total for 11 weeks ...	66,570	19,300 0 0	1,70,750 0	15,920 0 0	410 0 0	35,630 0 0	10,480	8,705	19,185
COMPARISON.									
Total for corresponding week of previous year ...	2,750	762 0 0	29,212 0	395 0 0	5 0 0	1,162 0 0	320	1,290	1,610
Per mile of railway corresponding week of previous year ...	113	31 0 0	1,192 0	16 0 0	...	47 0 0	...	...	...
Total to corresponding date of previous year ...	26,902	8,020 0 0	3,50,104 0	11,649 0 0	88 0 0	19,787 0 0	2,274	12,086	14,360

## EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., K.-D., DACCA, AND ASSAM-BEHAR SECTIONS.)

*Approximate Return of Traffic and Mileage for the week ended 23rd March 1901, on 853 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	218,180	1,17,230 0 0	11,18,780 0	1,35,600 0 0	7,290 0 0	2,69,120 0 0	35,850	37,572	73,422
Or per mile of railway ...	256	137 0 0	1,312 0	159 0 0	2 0 0*	298 0 0*	...	...	...
For previous 11 weeks of half-year ...	2,610,000	12,70,420 0 0	1,16,69,220 0	17,68,630 0 0	1,82,530 0 0	32,27,570 0 0	387,017	427,204	814,221
Total for 12 weeks ...	2,828,180	13,93,650 0 0	1,27,88,000 0	19,04,230 0 0	1,89,830 0 0	34,87,600 0 0	422,867	464,776	887,643
COMPARISON.									
Total for corresponding week of previous year ...	300,270	1,08,541 0 0	10,65,768 0	1,33,495 0 0	11,312 0 0	2,53,338 0 0	35,089	38,324	73,413
Per mile of railway corresponding week of previous year ...	254	130 0 0	1,281 0	160 0 0	2 0 0	292 0 0	...	...	...
Total to corresponding date of previous year ...	2,605,494	12,96,679 0 0	1,37,02,568 0	19,27,476 0 0	2,47,004 0 0	34,71,119 0 0	427,510	470,378	903,888

\* Excluding steamer earnings.

## DACCA STATE RAILWAY.

*Approximate Return of Traffic and Mileage for the week ended 23rd March 1901, on 86 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	25,740	7,640 0 0	25,390 0	2,280 0 0	40 0 0	9,960 0 0	2,790	1,860	4,650
Or per mile of railway ...	299	89 0 0	295 0	27 0 0	...	116 0 0	...	...	...
For previous 11 weeks of half-year ...	288,320	91,730 0 0	4,89,510 0	47,630 0 0	1,780 0 0	1,41,140 0 0	31,530	22,078	53,608
Total for 12 weeks ...	313,960	99,370 0 0	5,15,200 0	49,910 0 0	1,820 0 0	1,51,100 0 0	34,320	23,938	58,258
COMPARISON.									
Total for corresponding week of previous year ...	26,130	7,713 0 0	49,432 0	2,169 0 0	53 0 0	9,935 0 0	2,778	1,109	3,878
Per mile of railway corresponding week of previous year ...	304	90 0 0	470 0	25 0 0	1 0 0	116 0 0	...	...	...
Total to corresponding date of previous year ...	295,858	90,802 0 0	3,58,125 0	31,460 0 0	3,376 0 0	1,25,644 0 0	35,240	14,177	49,417

## COOCH BEHAR STATE RAILWAY.

*Approximate Return of Traffic and Mileage for the week ended 23rd March 1901, on 33.73 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	1,840	710 0 0	6,180 0	610 0 0	30 0 0	1,350 0 0	350	1,500	1,850
Or per mile of railway ...	55	21 0 0	183 0	18 0 0	.....	*33 0 0	.....	.....	.....
For previous 11 weeks of half-year ...	19,440	7,930 0 0	96,130 0	7,610 0 0	520 0 0	16,060 0 0	3,691	15,235	18,926
Total for 12 weeks ...	21,280	8,640 0 0	1,02,310 0	8,220 0 0	550 0 0	17,410 0 0	4,041	16,738	20,779
COMPARISON.									
Total for corresponding week of previous year ...	2,313	850 0 0	5,114 0	577 0 0	217 0 0	1,644 0 0	184	530	1,114
Per mile of railway corresponding week of previous year ...	70	26 0 0	154 0	17 0 0	1 0 0	44 0 0	.....	.....	.....
Total to corresponding date of previous year ...	21,797	8,964 0 0	1,13,333 0	9,590 0 0	2,093 0 0	20,637 0 0	2,209	11,192	13,401

\* Excluding coaching ferry.

## MYMENSINGH-JAGANNATHGANJ RAILWAY.

*Approximate Return of Traffic and Mileage for the week ended 23rd March 1901, on 53.37 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	8,370	2,080 0 0	7,090 0	490 0 0	10 0 0	2,580 0 0	1,136	345	1,481
Or per mile of railway ...	157	39 0 0	150 0	9 0 0	.....	48 0 0	.....	.....	.....
For previous 11 weeks of half-year ...	99,360	25,250 0 0	1,40,650 0	7,320 0 0	160 0 0	32,500 0 0	11,978	6,820	18,798
Total for 12 weeks ...	1,07,730	27,360 0 0	1,54,640 0	7,850 0 0	170 0 0	36,380 0 0	13,114	6,968	20,082
COMPARISON.									
Total for corresponding week of previous year ...	9,293	2,380 0 0	8,172 0	500 0 0	6 0 0	2,886 0 0	1,098	903	2,001
Per mile of railway corresponding week of previous year ...	174	45 0 0	153 0	9 0 0	.....	54 0 0	.....	.....	.....
Total to corresponding date of previous year ...	1,02,885	25,846 0 0	2,33,744 0	10,378 0 0	165 0 0	39,389 0 0	12,354	7,617	19,971

## BRAHMAPUTRA-SULTANPUR RAILWAY.

*Approximate Return of Traffic and Mileage for the week ended 23rd March 1901, on 59 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	7,150	1,980 0 0	12,310 0	1,000 0 0	10 0 0	2,990 0 0	764	916	1,680
Or per mile of railway ...	122	34 0 0	209 0	17 0 0	.....	51 0 0	.....	.....	.....
For previous 11 weeks of half-year ...	66,570	19,800 0 0	1,70,750 0	15,920 0 0	410 0 0	35,630 0 0	10,480	5,765	16,245
Total for 12 weeks ...	73,720	21,280 0 0	1,83,060 0	16,920 0 0	420 0 0	38,620 0 0	11,244	6,621	17,865
COMPARISON.									
Total for corresponding week of previous year ...	2,775	792 0 0	10,656 0	815 0 0	8 0 0	1,315 0 0	295	561	1,246
Per mile of railway corresponding week of previous year ...	115	32 0 0	435 0	21 0 0	.....	53 0 0	.....	.....	.....
Total to corresponding date of previous year ...	29,676	8,811 0 0	3,60,760 0	12,164 0 0	97 0 0	21,072 0 0	3,669	13,037	15,006



## BENGAL CENTRAL RAILWAY COMPANY, "LIMITED."

Approximate Return of Traffic and Mileage for the week ended 23rd March 1901, on 139 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	33,118	13,843 0 0	51,558 0	3,515 0 0	112 0 0	17,470 0 0	3,971	2,158	6,129
Or per mile of railway ...	255	106 0 0	371 0	25 0 0	1 0 0	132 0 0	.....	.....	...
For previous 11 weeks of half-year*	384,400	1,64,477 0 0	6,73,844 0	50,823 0 0	40,280 0 0	2,55,580 0 0	47,562	26,272	73,834
Total for 12 weeks ...	417,608	1,78,320 0 0	7,25,402 0	54,338 0 0	40,392 0 0	2,73,050 0 0	51,533	28,430	79,963
COMPARISON.									
Total for corresponding week of previous year ...	34,913	12,654 0 0	94,973 0	7,129 0 0	424 0 0	20,207 0 0	4,703	2,939	7,642
Per mile of railway corresponding week of previous year ...	260	97 0 0	683 0	51 0 0	3 0 0	151 0 0	.....	.....	...
Total to corresponding date of previous year ...	411,254	1,64,538 0 0	11,12,105 0	83,485 0 0	20,712 0 0	2,68,735 0 0	55,701	35,579	91,080

\* Audited up to week ending 2nd February 1901.  
† Coaching traffic calculated on 139 miles only.

## BENGAL AND NORTH-WESTERN RAILWAY.

Approximate Return of Traffic for the week ending 23rd March 1901, on 1,251 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including steam-boat.	Total earnings.	TRAFFIC TRAIN MILES RUN.		
	No. of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs.	Mds.	Rs.	Rs.	Rs.			
Total traffic for the week on 1,251 miles open ...	161,280	65,350	758,020	1,12,960	19,160	(a) 1,08,070	29,967	(b) 32,855	62,822
Or per mile of railway ...	128'92	62'72	605'83	90'30	15'31	158'33	.....	.....	.....
For previous 10½ weeks of half-year (c) ...	1,740,945	7,27,604	7,187,685	10,53,206	1,78,598	10,50,408	334,131	319,343	653,474
Total for 11½ weeks ...	1,902,225	7,93,554	7,945,705	11,66,166	1,97,758	21,57,478	364,098	352,196	716,294
COMPARISON.									
Total for corresponding week of previous year on 1,158 miles open ...	139,726	54,446	739,020	1,13,291	14,354	1,82,091	27,320	(d) 35,786	63,106
Per mile of corresponding week of previous year ...	120'66	47'01	638'96	97'63	12'40	157'24	.....	.....	.....
Total to corresponding date of previous year ...	1,563,729	6,51,092	8,361,350	11,57,639	1,94,283	20,03,614	323,336	3,90,988	714,324

(a) Increase due to increased mileage and improved traffic generally.  
(b) Includes 2,970 miles of ballast trains run on open line.  
(c) .. audited figures up to week ending 2nd February 1901.  
(d) .. 4,146 miles of ballast trains run on open line.

## SEGOWLIE-RAKSAUL BRANCH RAILWAY.

(WORKED BY THE B. &amp; N.-W. RAILWAY.)

Approximate Return of Traffic for week ending 23rd March 1901, on 18 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Passengers carried.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
	No.	Rs.	Mds.	Rs.	Rs.	Rs.			
Total traffic for the period on 18 miles open ...	1,327	254	11,598	577	25	857	376	128	504
Or per mile of railway ...	73'72	14'11	630'33	32'05	1'44	47'61	.....	.....	...
For previous 10½ weeks of half-year (a) ...	18,174	3,230	130,349	3,645	383	7,258	3,694	1,238	4,932
Total for 11½ weeks ...	19,501	3,484	141,947	4,222	408	8,115	4,070	1,366	5,436
COMPARISON.									
Total for corresponding week of previous year on 18 miles open ...	1,287	230	10,325	215	159	694	160	92	252
Per mile of corresponding week of previous year ...	71'50	12'81	573'61	11'92	8'84	38'57	.....	.....	...
Total to corresponding date of previous year ...	16,331	2,968	107,060	3,390	253	6,611	1,921	1,103	3,024

(a) Includes audited figures up to week ending 2nd February 1901.

## SEGOWLIE-RAKSAUL BRANCH RAILWAY.

(WORKED BY THE B. &amp; N.-W. RAILWAY.)

*Audited Return of Traffic for week ending 26th January 1901, on 18 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Passengers carried.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
	No.	Rs. A. P.	Mds.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the period on 18 miles open ... ..	2,345	400 1 11	11,010	224 0 9	37 10 0	721 12 8	410	94	504
Or per mile of railway ... ..	124.72	22 3 8	611.07	14 10 8	3 3 3	40 1 7	.....	.....	.....
For previous 2½ weeks of half-year ... ..	5,419	939 10 11	28,848	820 2 0	209 2 0	1,968 15 5	635	265	900
Total for 3½ weeks ...	7,664	1,339 12 10	39,858	1,084 3 3	266 12 0	2,690 12 1	1,045	359	1,404
COMPARISON.									
Total for corresponding week of previous year on 18 miles open.	991	171 7 10	6,427	241 1 0	3 4 0	415 12 10	151	101	252
Per mile of corresponding week of previous year.	55.06	9 8 5	357.06	13 6 3	0 2 11	23 1 7	.....	.....	.....
Total to corresponding date of previous year.	4,821	879 6 10	32,669	911 8 0	33 12 0	1,824 10 10	621	351	972

## SEGOWLIE-RAKSAUL BRANCH RAILWAY.

(WORKED BY THE B. &amp; N.-W. RAILWAY.)

*Audited Return of Traffic for week ending 2nd February 1901, on 18 miles open.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Passengers carried.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
	No.	Rs. A. P.	Mds.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the period on 18 miles open ... ..	2,156	327 15 8	14,137	278 11 5	36 5 0	633 0 1	365	139	504
Or per mile of railway ... ..	119.78	20 7 1	785.39	15 7 9	2 0 3	37 15 1	.....	.....	.....
For previous 3½ weeks of half-year ... ..	7,664	1,339 12 10	39,858	1,084 3 3	266 12 0	2,690 12 1	1,045	359	1,404
Total for 4½ weeks ...	9,820	1,707 12 6	53,995	1,362 14 8	303 1 0	3,373 12 2	1,410	498	1,908
COMPARISON.									
Total for corresponding week of previous year on 18 miles open.	1,267	254 10 0	6,512	200 10 0	11 2 0	466 6 0	178	74	252
Per mile of corresponding week of previous year.	70.39	14 2 4	378.44	11 2 4	0 9 11	25 14 7	.....	.....	.....
Total to corresponding date of previous year ... ..	6,088	1,134 0 10	39,381	1,112 2 0	44 14 0	2,291 0 10	799	425	1,224

## ASSAM-BENGAL RAILWAY.

*Approximate Return of Traffic for the week ended 9th March 1901, on 397 miles open for all descriptions of traffic, and an additional 181 miles for goods and parcels traffic only.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	37,237	21,523 0 0	1,09,109 0	15,461 0 0	1,800 0 0	38,724 0 0	4,290	7,188	11,388
Or per mile of railway ... ..	93.80	54.21	188.77	26.65	3.11	83.97	10.58	12.41	23.01
For previous 9 weeks of half-year ... ..	366,443	2,57,471 0 0	8,53,083 0	1,10,084 0 0	21,017 0 0	3,59,472 0 0	42,495	51,158	93,653
Total for 10 weeks ...	403,680	2,78,994 0 0	9,62,192 0	1,25,485 0 0	23,717 0 0	4,28,196 0 0	46,695	58,346	105,041
COMPARISON.									
Total for corresponding week of previous year	35,762	22,609 0 0	*1,17,200 0	*12,016 0 0	*1,560 0 0	36,185 0 0	*4,253	*5,017	*9,270
Per mile of railway correspond- ing week of previous year	90.31	57.09	265.19	27.50	3.57	88.16	10.74	11.48	22.21
Total to corresponding date of previous year ... ..	321,539	2,06,581 0 0	*12,54,508 0	*1,18,737 0 0	*19,440 0 0	3,44,758 0 0	*42,126	*50,713	*92,839

\* Weight and train-miles of ballast trains of Chittagong Section have been omitted, and the amount has been included under "other earnings."

## FINANCIAL YEAR.

*Approximate Statement of Gross Receipts of the Assam-Bengal Railway.*

RECEIPTS FOR WEEK ENDING 9TH MARCH 1901.			RECEIPTS FOR WEEK ENDING 10TH MARCH 1900.			TOTAL RECEIPTS FROM 1ST APRIL 1900 TO WEEK ENDING 9TH MARCH 1901.			TOTAL RECEIPTS FROM 1ST APRIL 1899 TO 10TH MARCH 1900.			Total increase in 1901.	Total decrease in 1901.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
	Rs.	Rs.		Rs.	Rs.		Rs.			Rs.		Rs.	Rs.
578	38,724	83.97	437	36,185	83.16	578	16,83,909	.....	437	15,17,638	.....	1,66,361	.....

## ASSAM-BENGAL RAILWAY.

*Approximate Return of Traffic for the week ended 16th March 1901 on 397 miles open for all descriptions of traffic, and an additional 181 miles for goods and parcels traffic only.*

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	No. of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. s.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	35,938	21,625 0 0	1,33,240 0	18,433 0 0	2,710 0 0	42,770 0 0	3,986	7,989	11,955
per mile of railway ...	90.52	54.47	239.53	31.89	4.70	91.06	10.04	13.79	23.83
for previous 10 weeks of half-year ...	403,680	2,78,994 0 0	9,62,192 0	1,25,485 0 0	23,717 0 0	4,28,196 0 0	46,695	58,346	105,041
Total for 11 weeks ...	439,618	3,00,619 0 0	10,95,441 0	1,43,917 0 0	26,426 0 0	4,70,972 0 0	50,681	66,315	116,996
COMPARISON.									
Total for corresponding week of previous year ...	31,513	23,777 0 0	1,16,007 0	11,336 0 0	1,504 0 0	33,617 0 0	4,376	5,264	9,640
per mile of railway corresponding week of previous year ...	79.58	52.47	265.46	25.94	3.44	81.85	11.05	12.05	23.10
Total to corresponding date of previous year ...	353,052	2,27,359 0 0	13,76,516 0	1,28,983 0 0	21,034 0 0	3,78,376 0 0	46,529	55,960	102,479

## FINANCIAL YEAR.

*Approximate Statement of Gross Receipts of the Assam-Bengal Railway.*

RECEIPTS FOR WEEK ENDING 16TH MARCH 1901.			RECEIPTS FOR WEEK ENDING 17TH MARCH 1900.			TOTAL RECEIPTS FROM 1ST APRIL 1900 TO WEEK ENDING 16TH MARCH 1901.			TOTAL RECEIPTS FROM 1ST APRIL 1899 TO WEEK ENDING 17TH MARCH 1900.			Total increase in 1901.	Total decrease in 1901.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked per week.	Mean mileage worked.	Total receipts.	Per mile worked per week.		
	Rs.	Rs.		Rs.	Rs.		Rs.			Rs.		Rs.	Rs.
578	42,770	91.06	437	33,617	81.85	578	17,26,775	...	437	15,51,255	...	1,75,520	....

## DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

	Rs.	A.	P.
Approximate earnings for the week ending 23rd March 1901 ...	14,486	0	0
Audited earnings for the corresponding period of 1900 ...	15,992	0	0
Decrease ...	1,506	0	0
Receipts per mile for the week ending 23rd March 1901 ...	284	0	8
Ditto for the corresponding period of 1900 ...	313	9	1
Decrease ...	29	8	5
Receipts from 1st January to 23rd March 1901 ...	1,32,801	0	0
Ditto for the corresponding period of 1900 ...	1,62,327	0	0
Decrease ...	29,526	0	0





SUPPLEMENT TO  
**The Calcutta Gazette.**

WEDNESDAY, APRIL 10, 1901.

OFFICIAL PAPERS.

[Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of five rupees per annum if delivered in Calcutta, or seven rupees and eight annas if sent by post.]

CONTENTS.

	Page		Page
APPOINTMENTS to the Public Works Department in Bengal	677	STATEMENT showing heights over mean sea-level and low water in the Rivers Ganges, Bhagirathi, Jalangi and Brahmaputra for the month of February 1901	726
Rabi crops in Bengal, 1900-1901	681	Abstract statement showing Tollage on Canals in Bengal classed as Major and Minor works for the month of February 1901	727
Weather and Crop Report for the week ending 8th March 1901	713	Circular and Eastern Canals for the week ending Saturday the 30th March of to 6th April 1901	728
Prices-current (retail) of food-grains and salt in the head-quarters station bazars of the districts of Bengal during the fortnight ending the 31st March 1901	717	East Indian Railway for the month of January 1901	729
Abstract of the results of Meteorological Observations taken at the Alipore Observatory in the month of March 1901	724	Bengal Central Railway, Company Limited, during the month of January 1901	731
Results of the Meteorological Observations taken at the Alipore Observatory from 31st March to 6th April 1901	725	Weekly return of Traffic Receipts on Indian Railways	733

APPOINTMENTS TO THE PUBLIC WORKS DEPARTMENT IN BENGAL.

No. 1252E.

Government of Bengal.

PUBLIC WORKS DEPARTMENT.

ESTABLISHMENT.

Calcutta, the 4th April 1901.

RESOLUTION.

READ—

- (1) Government of India, Public Works Department Resolution No. 1443G., dated the 13th December 1884.
- (2) Government of Bengal, General Department Resolution No. 294T.—G., dated the 21st April 1891.
- (3) Letter No. 117T.—G., dated Darjeeling, the 25th June 1891, from the Government of Bengal, to the Government of India, Public Works Department.
- (4) Letter No. 1937G., dated the 20th July 1891, from the Government of India, Public Works Department.
- (5) Government of Bengal, General Department Resolution No. 257T.—G., dated the 25th September 1891.
- (6) Government of India, Public Works Department Resolution No. 2112G., dated the 19th July 1892.
- (7) Government of India, Public Works Department, No. 3354G., dated the 14th October 1892.
- (8) Government of Bengal, Public Works Department Resolution No. 3297E., dated the 13th December 1893.

OBSERVATIONS.—These papers refer to the appointment both of officers to the Engineer establishment and of Subordinates to the Upper Subordinate Establishment of the Public Works Department in Bengal. It is intended to make some alterations in these orders.

2. With reference to the officers of the Engineer Establishment it was, at first, laid down that "one and two appointments in the grade of Assistant Engineer are reserved, in alternate years, for students of the Sibpur College who qualify at the University Examinations." But, subsequently, it was decided that only one appointment each year should be made from those students, and that, in alternate years, one Upper Subordinate should be promoted to the Engineer Establishment. The students who qualify at the University Examination are those who are trained in the Engineer Department of the Sibpur Civil Engineering College, they continue for one year, after passing the University test, to study in a "practical course" (rule 8, page 18 of Sibpur College Calendar 1900) and during that course are considered as students of the College. At the end of this "practical course" one of the students is appointed an Apprentice Engineer in the Public Works Department.

3. Hitherto it has been the custom, to which there has been one exception, to grant the annual appointment of Apprentice Engineer to the student who stood first in the University Examination. The Lieutenant-Governor does not consider that this system is satisfactory. The student, who graduates at the top of the list, may be but little superior, in theoretical knowledge, to those below him on the list, and he may be inferior to them in practical efficiency on works, in energy and in physique, all points of importance to an Engineer. These are characteristics which are developed during the year's "practical course," and can be gauged at the end of it. The Lieutenant-Governor has, therefore, determined that the graduates, to whom the one appointment of Assistant Engineer is reserved, shall be required to go through an examination in certain practical subjects at the end of the "practical course" and that the graduate who shall stand highest in that examination shall be given the appointment of Apprentice Engineer, with the prospect, if his apprenticeship is satisfactory, of being confirmed as an Assistant Engineer in the Provincial Public Works Department.

4. WITH reference to the Upper Subordinate Establishment, it was, at first laid down that "all vacancies in the Upper Subordinate Establishment in Bengal are reserved for Graduates in Engineering of the Calcutta University who have been educated at the Sibpur Engineering College." Subsequently that order was modified, to some extent, but direct appointments were limited to:—

Resolution No. 327 E.T., dated  
13th December 1893.

- (i) mechanics required for special purposes;
- (ii) students from Sibpur or other Indian College who had either graduated in Engineering at an Indian University, or held certificates as Assistant Engineer from the Thomason College, Kurki; and
- (iii) Certain students from Sibpur who had been through the full College Course but had not graduated at the University.

As a matter of fact, since 1895, out of 39 direct appointments made to the Upper Subordinate establishment of the Bengal Public Works Department, 31 appointments have been made from students of the "Engineering Department" of the Sibpur College, who have graduated at the Calcutta University.

5. But the Sibpur College has not only got an "Engineer Department": it has also an "Apprentice Department." Those students who pass successfully through the whole course of five years in the "Apprentice Department" obtain certificates as Upper Subordinates and Foremen Mechanics; and some of these qualify as Sub-Engineers. The students of the "Apprentice Department" may obtain, and do accept, appointments as Sub-Overseers on the Lower Subordinate establishment; but, although they may be qualified as Upper Subordinates or even as Sub-Engineers, they have no means of direct access to the Upper Subordinate Establishment of the Bengal Public Works Department.



The conditions of the College require that a student, entering the "Engineer Department," should have attained a much higher standard of general education than one entering the "Apprentice Department;" and the limit of age, in the one case, is about four years higher than in the other. A successful student from the "Engineer Department" attains the University degree of L.E. or B.E.: This is a diploma indicating a standard of proficiency in Scientific and Engineering knowledge which is far higher than that attained by the successful student of the "Apprentice Department." On the other hand, experience has shown that the "Apprentice Department" turns out students who are men of a more mechanical, and, therefore, of a more practical stamp than those who graduate at the University. The "Apprentice Department" of the College has been greatly improved in late years, and the Lieutenant-Governor is of opinion that the students of that Department should be allowed to compete for direct appointments in the Upper Subordinate Establishment of the Bengal Public Works Department.

6. The Behar School of Engineering has recently been re-organized and the standard of the Education it gives has been raised. The successful students from the School will finally pass an examination which will be equal to that passed by the students of the "Apprentice Department" of Sibpur. But the Behar students do not have the 18 months' practical training in the workshops which some of the Sibpur students go through and are not entitled to the certificate of Upper Subordinate and Foreman Mechanic which the latter attain. They are therefore likely to be less efficient than the Sibpur students in practical work.

7. After consideration of all these circumstances the Lieutenant-Governor has decided that, as a general rule to which it may be necessary to make some exceptions, the Upper Subordinate Establishment in Bengal shall, in future, be recruited in about equal proportions (1) from the students of the Sibpur Civil Engineering College who have graduated in the Calcutta University, and (2) from the students of the "Apprentice Department" of Sibpur and students, of the Behar School of Engineering.

8. The students, who will be permitted to compete for these appointments, will be determined by the rules in the following Resolution. They will all be required to pass through the "practical course" which is mentioned in paragraph 2, and will, at the end of it, be subjected to the examination referred to in paragraph 3.

9. The students from the Apprentice Department of Sibpur and from the Behar School of Engineering will be given an allowance during the period of the practical course of Rs. 50 a month. This allowance will be withdrawn if the conduct of the student is not satisfactory.

10. The rules in the following Resolution will be brought into effect with reference to those students who pass out of the Sibpur College or the Behar School in the year 1902:—

RESOLUTION:—I.—One appointment as Apprentice Engineer will be made each year from the students of the "Engineering Department" of the Sibpur Engineering College, who have qualified at the Calcutta University Examinations and who have also qualified in a year's "practical course" in the Public Works Department. If the Apprentice Engineer serves his apprenticeship satisfactorily, he will be permanently appointed as an Assistant Engineer in the Provincial Service of the Public Works Department.

II.—In alternate years one Upper Subordinate will also be promoted to be an Assistant Engineer in the same service.

III.—The probable number of vacancies in the Upper Subordinate Establishment of the Bengal Public Works Department will be estimated annually. The number of graduates of the Calcutta University (being students from Sibpur College), who will be placed on their "practical course" in the Public Works Department, will be one more than the number so estimated, but not less than four in any case.

They will be taken in the order in which they stand in the University list, and, if a mining student is among the number, he will be allowed to reckon his mining course as equivalent to the "practical course."



IV.—The Lieutenant-Governor will select from among the students who have, in the year, passed the final examination of the Behar School of Engineering, or of the Apprentice Department at Sibpur, a number equal to the estimated number of vacancies in the Upper Subordinate Establishment and not less than four in any case. These candidates will be placed on the same "practical course" as the students of the "Engineering Department" of the Sibpur Engineering College are, for one year in the Public Works Department; only one candidate will be usually nominated from the Behar School of Engineering.

V.—The "practical course" in the Public Works Department will be conducted as it has hitherto been. When it is over, a Board of Examiners will be formed, consisting of one Superintending Engineer and two Executive Engineers, who will subject all of the above-mentioned student candidates to an examination, which will be designed to test them in those qualities which, independently of book work and theory, go far to make an efficient officer. The examination will be essentially a practical one: it will, as far as possible, be conducted orally and in the field.

VI.—The examination will include:—

			Full marks.
<i>First.</i> —The results of the last handicraft examination passed by the students at the College considered equal to			1,000
<i>Secondly.</i> —The marks awarded in the practical examination in the following subjects:—			
(1) Practical Levelling	...	...	250
(2) Practical Engineering	...	...	250
(3) Preparation of materials...	...	...	250
(4) Knowledge of simple accounts	...	...	250
(5) Ability to prepare, use and apply working drawings	...	...	250
(6) Estimating	...	...	250
(7) Riding on horseback	...	...	500
			<hr/> 2,000
Grand Total			... <hr/> 3,000

VII.—The Local Government, in reviewing the results, will take into consideration the reports on the character and general fitness of the candidates, which are submitted by the officers under whom they have served during the "practical course," and will then arrange the whole number of candidates on a list in order of merit.

VIII.—The first candidate on this list who holds a University degree will be offered the appointment of Apprentice Engineer.

IX.—The others, in their order on this list, will be offered appointments as probationary overseers. Those who hold the certificate of Upper Subordinate and Foreman Mechanic, or any superior certificate, will usually be placed in the second grade: but, if the Lieutenant-Governor considers that any one of the successful candidates is of exceptional merit, he may be appointed first grade. Those candidates who hold a lower certificate, not equal to that of Foreman Mechanic, will be placed in the third grade of overseers.

X.—The seniority of those who may be appointed will be determined by their order on this list.

XI.—This Resolution only affects paragraph I of Bengal Government Resolution No. 3297 E. of 13th December 1893; the other paragraphs of that Resolution remain in force.

ORDER—Ordered that a copy of this Resolution be forwarded to the General (Education) Department of this Government; to the Director of Public Instruction, Bengal; to the Principals, Patna College and Civil Engineering College, Sibpur; to the Commissioner, Patna Division and to the Head Master, Bihar School of Engineering for information, and that it be published in Part I of the *Calcutta Gazette*.

By order of the Lieutenant-Governor of Bengal,

R. B. BUCKLEY,

*Secretary to the Govt. of Bengal.*

RABI CROPS IN BENGAL, 1900-1901.

THE following is published for general information.

F. A. SLACKE,

The 4th April 1901.

Secy. to the Govt. of Bengal.

DEPARTMENT OF LAND RECORDS AND  
AGRICULTURE, BENGAL.

*Note on the rabi crops in Bengal for 1900-1901.*

*Explanatory.*—Hitherto this forecast has included *rabi* crops of all kinds, and figures for wheat, sugarcane, cotton (early and late) and *rabi* oilseeds, for which separate forecasts are issued by this Department, were given in it. With Government Order No. 2369T.—R., dated the 3rd November 1900, however, instructions have been received for the omission from the *bhadoi* and *rabi* forecasts of all crops for which separate reports are prepared. These orders have been carried out and this is the first note on the *rabi* crops of these provinces from which figures of wheat, cotton and oilseeds have been omitted.

*Character of the season.*—The monsoon rains of the year 1900 were capricious and badly distributed, and the cold weather season has been abnormal in many respects. At the commencement of October the districts of the Presidency Division had not recovered from the unprecedented fall of rain in September, while in many districts of Northern and Eastern Bengal the rainfall was in considerable defect. There was little or no rain in the months of October and November, and the prospects of the *rabi* crops suffered in consequence, while the area sown with them was restricted. In December, January and February, the rainfall considerably exceeded the normal in Chota Nagpur, Orissa, and in parts of Bihar, but was deficient in North and East Bengal. The excess of rain did a good deal of damage in some districts, while the want of it was seriously felt elsewhere. The season was, on the whole, therefore, unfavourable to the growth and ripening of the *rabi* crops.

*Area sown.*—Excluding the areas sown with wheat, cotton and oilseeds, the normal area under the different *rabi* crops in these Provinces stands at 9,493,300 acres. The area cultivated this year with the several *rabi* crops is 9,047,800 acres as compared with 9,262,000 acres in the preceding year. The area under *rabi* food crops this year is 7,647,200 acres against 7,734,200 acres, the estimated area last year. As has been noted above, the reduction in area is mainly due to the sudden termination of the monsoon rains early in

October last, and the area placed under these crops in the Presidency Division was also affected by floods.

*Outturn.*—It will be seen from Appendix I, that out of the 45 districts in these Provinces, only one, Saran, anticipates an outturn above the normal (111 per cent.), and in only two others (Birbhum and Backergunge) is a normal outturn expected. Of the rest, twenty districts estimate an outturn varying between 80 and 99 per cent., eleven others estimate an outturn varying between 60 and 79 per cent.; while in the remaining 11 districts the estimate falls below 60 per cent. Taking the Province as a whole, the District Officers estimate the probable outturn of the *rabi* crops at 79 per cent. of a normal crop, as against 88 per cent. estimated last year.

I believe, however, that the returns are in some cases unduly pessimistic, and it seems probable that the ill effects of the rain and cloudy weather in January and February last have been over-estimated. In these circumstances, I anticipate that the outturn will not fall short of 85 per cent. for the province as a whole.

*Gross outturn of summer rice.*—I append a statement showing approximately the probable outturn of the *boro* or summer rice crop, accepting 88 per cent. as the estimated outturn. It amounts to 3,094,900 cwts., as against an outturn of 3,286,600 cwts. reported last year.

P. C. LYON,

*Director of the Department of Land Records  
and Agriculture, Bengal.*

CALCUTTA :

*The 26th March 1901.*



Estimate of outturn of rabi crops, 1900-1901.

1	2	3	4	5	6	7	8	9	10	11
Division and District.	Total area of district in acres.	Total area in district estimated to be under cultivation in acres.	Names of rabi crops.	Approximate normal area under each specified rabi crop in acres.	Approximate area last year under each specified rabi crop in acres (1899-1900).	Estimated area this year under each specified rabi crop in acres (1900-1901).	Taking 100 to represent the normal outturn, how much represented the outturn last year (1899-1900) ?	Taking 100 to represent the normal outturn, how much will represent this year's outturn (1900-1901) ?	Remarks by District Officers.	Remarks by Director, Department of Land Records and Agriculture, Bengal.
Burdwan Division.	1,736,080	1,284,360	Barley .. .. Jowar or summer rice .. .. Gram .. .. Other rabi .. .. cereals and pulses. Other rabi food-crops (not separately reported), e.g., potatoes, yams, melons and others.	9,600 500 11,470 66,800 49,800	9,600 500 11,400 66,800 49,800	9,600 500 11,400 66,800 41,400	100 100 100 100 100	91 100 91 91 91	The decrease in area and outturn this year is due to want of sufficient rainfall during the sowing season.	
Burdwan			Total food-crops ..	138,100	138,100	129,700	101	91		
			Tobacco .. .. Other rabi non-food-crops, (not separately reported), e.g., spices, oats, &c.	600 3,100	600 3,100	600 3,100	100 100	100 100		
			Total non-food-crops ..	3,700	3,700	3,700	100	100		
			GRAND TOTAL ..	141,800	141,800	133,400	101	91		